EVIDENCE-BASED PRACTICE IN ONLINE HIGHER EDUCATION: AN EXPLORATORY STUDY OF THE ONLINE POLICIES AND PRACTICES OF UNITED STATES DOCTORAL/RESEARCH-EXTENSIVE UNIVERSITIES

by

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ABSTRACT

The availability of online education in universities and colleges across the nation has significantly increased during the past decade. The increase has been due in part to recent federal policy changes authorizing access to financial aid for online higher education students. The dramatic growth in the number of students taking online courses and the corresponding increase in online offerings from United States (U.S.) colleges and universities have followed this policy change. Questions related to institutional compliance with national online quality standards remain unanswered in the extant literature.

The exploratory study first examines the three phases in the development of online quality standards for U.S. higher education. It next considers the institutional context and commitment to online courses and degrees as well as the current online curriculum and instruction policies and practices of Doctoral/Research-Extensive Universities in the U.S. The study explores issues related to the quality and types of instructor and student support. Online evaluation and assessment are also considered in the context of the U.S. higher education experience.

A survey instrument elicited data from university Chief Information Officers in the five key areas of online institutional activity defined by the agencies that accredit all U.S. colleges and universities. The findings provide new information on the online

policies and practices of 25 U.S. Doctoral/Research-Extensive Universities in the areas of: 1) institutional context and commitment, 2) curriculum and instruction, 3) faculty support, 4) student support, and 5) evaluation and assessment. An analysis of the data provides new understanding of institutional policies and practices in light of both extant research and accrediting agency standards for online higher education. Implications for online policy and practice are explored in some depth as are a number of directions for further research. Limitations of the study are noted.

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CHAPTER 1

INTRODUCTION

Background and Purpose of the Study

Background

American colleges and universities express both the rich traditions under which they arose and the changes they have made since their inception. These changes have arisen in response to both the pressures they have faced and the potentials they have realized. Governance issues in and out of American higher education institutions have concerned transitions from a formerly industrial economy to a growing knowledge-based society (*Greater Expectations: A New Vision for Learning as a Nation Goes to College*, 2002). The information society stretches beyond the boundaries of America to encompass much of the modern world. It reveals an age of great potentials requiring equally great innovations, transitions, and oversights within the higher education community.

Starr and Murray (2005) explained how societal pressures are moving higher education much more towards online teaching and learning. The movement, they say, sees driving forces that include the flexibility and convenience of online education and the fact that research shows learning effectiveness to be equal in either online or traditional classes. The movement also sees the growing competition for students by higher education institutions worldwide and the necessity of offering quality onlin

instruction as a matter of survival. Additionally, reductions in state budgets for higher education have led institutions to raise tuition rates, cut or freeze programs, reconsider hiring needs, and look for alternatives to traditional campus-based education. In response to the pressures, online education in universities and colleges across the nation has significantly increased during the past decade (Sloan Consortium, 2007). The increase found impetus in part due to recent federal policy changes authorizing access to financial aid for online higher education students (Carnevale, 2006).

The transitions into a knowledge-based society require a reexamination of higher education's responsibilities, policies and practices. Governance and policy decisions must address issues of student access, funding pressures, outcomes related to a changing workplace, and the assessment and assurance of quality. In the effort, policy construction and evidence-based practice play critical roles (Brown, 2000; Altbach, Berdahl, & Gumport, 2005).

Significance and Need for Study

A number of crucial pressures face American higher education. Chief among these are changing demographics in higher education courses, new enrollment patterns, the changing nature of the workplace, funding challenges, and the global nature of these pressures. More and more students participate in higher education and the nature of the students speaks to a growing diversity. Add to the mix the corresponding burdens on state legislative bodies to fund the expanding higher education needs and the pressures become critical (Miller, 2001). The costs to students in publicly funded higher education continue to grow in direct proportion to the lack of adequate funding from state legislatures.

Additionally, traditional resident universities and colleges cannot meet the higher education needs faced by either waiting high school graduates or adult populations (Askov, Johnston, Petty, & Young, 2003). Online distance education holds the potential to relieve at least part of the growing pressures for the provision of higher education. Demographics show that 90% of America's degree-granting public institutions are offering distance education courses (Partick, 2006) with an increasing number of these courses finding provision through online distance education. Realizing the potentials of online education may help to answer the critical issues from both policy and practice perspectives. Dynamic changes in policy require an equally dynamic demonstration of leadership in higher education governance.

Purpose of the Study

The world has entered an information age born of a technological revolution of dynamic proportions. Advances in online education may in turn lead the way in realizing many of the new potentials of this revolution. For this reason, the study examines what we know and addresses some of what we do not know concerning national quality standards for U.S. university policies and practices related to online distance education. The assessment and assurance of quality remains at the heart of the matter. The most comprehensive effort towards establishing common standards for quality in online policy and practice at the university level has been provided by the eight regional accrediting agencies for U.S. higher education (Council for Higher Education Accreditation, 2001, September). The document *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007) finds its foundation in "well-established essentials of institutional quality found in regional

accreditation standards." With origins in the regional accrediting agencies, the document attends to the need for high standards of quality in online education programs in U.S. higher education. While online student numbers continue to grow at nearly 10 times that of campus-based students at U.S. universities (Sloan Consortium, 2008) the establishment of national online higher education standards has been a crucial development.

The current exploratory study constructed a six point Likert-scale survey instrument to elicit data from U.S. university Chief Information Officers (CIOs). The CIOs represented 25 U.S. Doctoral/Research-Extensive Universities (Carnegie Doctoral/Research Universities-Extensive, 2007). The survey instrument constitutes an abridgement of the national online standards document. The survey inquired into the five key areas of institutional online policy and practice defined in the best practices document: 1) institutional context and commitment, 2) curriculum and instruction, 3) faculty support, 4) student support, and 5) evaluation and assessment. The findings provide new information on the institutional activity for online education at 25 U.S. doctoral/ research-extensive universities in 28 areas of online policy and practice. The findings also provide data for analysis across the five domains of institutional activity.

The current exploratory research may add to what we know and address some of what we do not know concerning online policy and practice at the university level. The study begins to provide information on the state of U.S. online higher education as it relates to the new national online standards. Missing in all of the studies to date is an examination of U.S. higher education online policy and practice in light of the national standards against which to measure quality. Research studies that examine university

policies and practices against the national online quality standards in the five areas of institutional activity are yet to be presented in the literature. A review of the research, however, revealed a number of relevant findings.

Review of the Literature

Standards in Online Higher Education

The University of London became the world's first higher education institution to offer a distance learning program. In 1858, the University of London External System established the provision of higher education and degrees to students of any race, religion, gender, or location (University of London External System, 2008). The efforts laid the foundations for an approach to learning that would become a major source of higher education worldwide. It paved the way for correspondence study, extension divisions, and distance education programs in universities and colleges around the globe, including online distance education.

The University of London External System set up quality standards from its inception and these same standards continue to this day. Distance education standards required distance learning students to do exactly the same work at the same level of achievement as traditional campus-based students. The equivalency standard required the same work of all students on assignments, quizzes, papers, and tests, regardless of student location. Students, parents, employers, and other higher education stakeholders had confidence in the education and qualifications of distance learners knowing they had done exactly the same work as campus-based students. The equivalency standard saw adoption by default whenever standards found consideration and wherever distance

education programs arose, both in the United Kingdom (U.K.) and elsewhere, over the next 30 years.

A thorough review of the literature revealed that the development of quality standards for U.S. higher education distance learning, including online distance education, falls into three main phases: Early Phase, Middle Phase, and Current Phase. The Early Phase encompassed the time from the introduction of distance learning in the U.S. in the early years of the 1950s to the appearance of online distance education in the early 1990s. During this period, no specific standards for distance learning programs existed. The Middle Phase started in the first years of the 1990s and continued into the early 2000s. The phase included a proliferation of differing standards across many higher education interests as will be demonstrated. The Current Phase, from the early 2000s and continuing to the present, has seen accountability reforms, quality assurance changes, and the first U.S. higher education accrediting institution standards for quality in online distance education. The quality standards were adopted in 2007. U.S. distance education standards followed, paralleled, and at times led developments in U.K. universities and other higher education programs across the three phases.

The early phase of standards development. The Early Phase in the U.S. begins with the pioneering work of the late Charles A. Wedemeyer, former Director of the Correspondence Study Program at the University of Wisconsin-Madison. Wedemeyer originated a number of foundational ideas in both open and distance education (Moore, 1999). His grants from both the Carnegie and Ford Foundations in the 1950s and 1960s enabled his exploration of the integration of multimedia with print to enhance student learning outcomes. Wedemeyer's Articulated Instructional Media Project has been

viewed as foundational to U.S. online higher education. The project also influenced the rise of one of today's institutional leaders in online distance education, Britain's Open University in Milton Keynes, England (Wedemeyer, 2008).

Wedemeyer formulated and enacted a new field of education – non-traditional learning. "This new discipline integrated adult, distance, open and independent learning with instructional systems design, applications of instructional technology, organizational development and evaluation" (Wedemeyer, 2008b, p.1). Wedemeyer has been recognized for his diligence in extending higher education opportunities "to populations traditionally excluded from formal education – the poor, the geographically isolated, the handicapped, the socially over-burdened, and the very bright for which traditional schooling had little to offer" (Wedemeyer, 2008b, p.1). The development of correspondence courses combined with the availability of further education to veterans through the GI Bill after World War II to help shape the nature and popularity of U.S. distance education.

Questions related to quality standards for distance education in U.S. colleges and universities would not be answered for decades. Research during the Early Phase had yet to establish critical differences between the two learning environments in terms of pedagogical models, instructional strategies, and skill sets needed by teachers for effective teaching. Research had also not studied what students needed for successful learning in distance settings. Differences in both teacher-student and student-to-student interaction also remained unclear. With technologically mediated distance education, the differences would later become even more distinct.

U.S. school and higher education reform in the early 1990s was motivated largely by the drive "to compete in a global economy and provide marketable information-age

skills to future employees" (Cuban, 2001, p. 7). The rise of educational technologies brought with it an information and communication technology (ICT) model in higher education institutions. The integration of ICT had become a national priority in educational policies in the U.S. and worldwide. The equivalency standard remained in place and specific quality standards for distance education were not yet an issue in higher education research or policy, either in the U.S. or elsewhere.

There remained a lack of national standards for either accreditation or quality for online institutions during the Early Phase. The situation created numerous opportunities in the Middle Phase for diploma mills where degrees were being sold to whoever had the money to buy one. When Jones International University entered the ranks of U.S. higher education institutions as a fully online university during this phase, a debate arose in academia over standards of accreditation for online institutions. The controversy centered on whether online universities and colleges should be accredited in the same way as traditional, campus-based institutions (Olsen, 1999). The question of quality standards for online distance education had yet to be raised in the research community.

The middle phase of standards development. The lack of national institutional standards of quality during the Early Phase left higher education institutions and programs on their own regarding standards. Most colleges and universities continued working under the default equivalency standards established 150 years earlier by the University of London. The Middle Phase, from the first years of the 1990s to the early 2000s, marked a widespread increase in the number of distance education programs in U.S. higher education. The National Center for Education Statistics (NCES) reported distance education data initially for the academic year 1997-1998. The NCES report

established data for the first time on the number of distance education programs at all 2-year and 4-year postsecondary institutions. The data showed that the number of course offerings, enrollments, and both degree and certificate programs offered in distance education between 1994-1995 and 1997-1998 approximately doubled in U.S. higher education institutions (Distance Education at Postsecondary Education Institutions: 1997-1998, 1999).

The report also concluded that while distance education had become commonplace in U.S. postsecondary education institutions, a number of unanswered issues remained. These included the accreditation and assurance of quality in distance education programs (Distance Education at Postsecondary Education Institutions: 1997-1998, 1999b). Quality took a back seat to technology from the start and accrediting agencies were slow to address the issue of quality assurance for online programs in higher education. Relative research, although accumulating, had not become compelling.

The American Federation of Teachers called on colleges and universities to adopt standards that would ensure quality in distance education programs. As one of the nation's largest organizations of its kind, the federation recognized the need for standards and acknowledged that the majority of higher education institutions did not meet the standards the federation had proposed. The Federation's standards addressed content, technical support for faculty and students, training educators to teach online courses effectively, and teacher interaction with students (Carnevale, 2001). Without national quality standards, institutions and their participating faculty members remained on their own to establish quality standards. In the process, various elements of distance education content, support, training, and interaction suffered, as the American Federation of

Teachers' research had demonstrated.

A number of institutions and organizations began addressing unresolved issues by establishing benchmarks of quality for online distance learning in 2002. Among these were the American Council on Education, the Higher Education Program and Policy Council of the American Federation of Teachers, and the Institute for Higher Education Policy (McKnight, 2004). The question of accreditation standards for online education had still not been addressed nationally. During the Middle Phase, individual institutions, disciplines, and programs remained on their own to establish and implement standards, should they decide to do so. The Accreditation Board for Engineering and Technology, for example, began the process of developing its own set of guidelines for evaluating the online aspects of U.S. engineering degree programs (Carnevale, 2002).

The current phase of standards development. The Sloan Consortium's report, *Sizing the Opportunity: The Quality and Extent of Online Education in the United States, 2002 and 2003* (2003), reported the growth of U.S. online higher education students to over 1.9 million, a nearly 20% increase from 2002 to 2003. Questions of quality in the online courses had been left to the institutions and programs to address. Standards of online quality in courses across higher educational institutions nation-wide were yet to be developed in the U.S.

The Current Phase has seen a number of accountability reforms and quality assurance changes both in the U.S. and abroad. The Current Phase has also witnessed the first application of accrediting agency standards for quality to U.S. online higher education in 2007. The development of the new national standards had been largely driven by the continuing growth in online enrollments and offerings. Online student

enrollments had continued to grow at rates far exceeding campus-based enrollments. In the same period, online education became critical to the long-term strategies of 53.6% of the 1,100 U.S. colleges and universities studied (*Entering the Mainstream: The Quality and Extent of Online Education in the United States, 2003 and 2004*, 2004).

Over the next three years, from 2002 to 2005, both the United Kingdom and Australia had moved ahead of the U.S. in their development and delivery of online higher education. In Australia, online technologies helped provide unprecedented educational opportunities to their widely dispersed student populations. The United Kingdom built on their deep roots in distance education by incorporating online technologies to reach new domestic and international markets. The ongoing concern of both countries at the time reflected what would later be a growing concern for U.S. institutions, the relationship and prioritization of either outcome-based or standards-based education.

One comprehensive study looked at English, Welsh, and Australian institutions at the national level. The research found that while outcome-based education predominated philosophy nationally in each of these countries, each recognized the need for incorporating the principles of standards-based education (Watt, 2005). The quality of the online programs offered by individual institutions could not be evaluated without such national standards. The proliferation of U.S. online higher education programs at this same time raised the critical questions of both quality assurance and national accreditation standards.

The Sloan Consortium reported that nearly 3.2 million students took online courses in the fall of 2005 (*Making the Grade: Online Education in the United States, 2006*, 2006). Two years later, in 2007, national standards for quality in U.S. online higher

education would finally be established. The eight regional accrediting agencies for higher education recognized by the U.S. Department of Education developed the new standards. It comprehensively addressed both online accreditation and quality standards in five key areas of institutional activity – institutional context and commitment, curriculum and instruction, faculty support, student support, and evaluation and assessment (Commission on Institutions of Higher Education, 2007). The question of institutional awareness and alignment with the new online standards for quality in online higher education remains unresolved.

In 2007, the Commission on Colleges, the eight regional agencies recognized by the U.S. Department of Education for accrediting all U.S. colleges and universities (U.S. Department of Education, 2007) published the document *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007) (See Appendix A). The Commission addressed the need for planning and assessing high standards of quality in U.S. university online programs. It also defined the critical areas of concern in U.S. online higher education programs. These consist of: 1) institutional context and commitment, 2) curriculum and instruction, 3) faculty support, 4) student support, and 5) evaluation and assessment. In drawing its conclusion, the Commission called for a reexamination of the online practices of U.S. universities in light of the newly established best practices for quality online higher education programs.

"These Best Practices are divided into five separate components, each of which addresses a particular area of institutional activity relevant to distance education" (Commission on Institutions of Higher Education, 2007). Institutional context and

commitment address key issues concerning the role of online programs in higher education institutions. Curriculum and instruction encompasses a range of issues from pedagogy to learning outcomes in an online environment. Faculty support in online distance education has become another area of concern for institutions developing and assessing their online programs. Student support in online programs involves both the diversity of online student populations and the institutional provision of appropriate services. Evaluation and assessment address both online programs and student achievements in asynchronous distance learning programs.

The national quality standards address course design and delivery, pedagogical approaches, and the technologies chosen and implemented. As stated by the Commission on Institutions of Higher Education (2007) in its online quality standards document, "These Best Practices are meant to assist institutions in planning distance education activities and to provide a self-assessment framework for those already involved" (p. 1).

Institutional Context and Commitment

There are an increasing number of compelling reasons to examine the institutional context and commitment of universities to online instruction. These include recent higher education policy changes (Carnevale, 2005) and rapidly growing student numbers in online distance education courses (Sloan Consortium, 2007). Research findings and recommendations have facilitated the U.S. Department of Education's policy changes. The longitudinal research examined over 100 higher education institutions offering online distance education courses (Distance Education Demonstration Program, 2005). The institutions all participated in the Department of Education's Distance Education

Demonstration Program from 1999, one year after Congress made the program part of the Higher Education Act. To more effectively control institutions that are offering online courses and diplomas, the Education Demonstration Program only allowed federal financial aid for distance education to the participating institutions.

The findings of the 2005 Education Department report directly influenced the policy changes. The changes in law, directed by Congress, constituted a lifting of their longstanding restrictions on federal financial aid to institutions offering more than half of their courses through distance education. The policy, now a part of the Higher Education Act, also lifted the restrictions on institutions that enroll more than half of their students in online programs (Carnevale, 2005).

These policy changes have enhanced U.S. online higher education, resulting in increasing numbers of students seeking online courses and programs. A recent Sloan Consortium report (2007) indicated almost 3.5 million students took at least one online course during the fall 2006 term. The rise amounted to a 9.7% increase over the previous year, far exceeding the 1.5% growth of the overall higher education student population. The growing number of students needing higher education has also placed increasing pressures on the university community to respond. Statistics indicate that online distance education has grown at all levels. Allen and Seaman (2007) found that over 96% of U.S. higher education institutions with a total enrollment of 15,000 or more offered online courses. Two-thirds of these institutions offered fully online programs. Almost all institutions described online education as important to the institution's long-term strategic planning. Universities described increased student access, rising education provision

costs, and market competitiveness as the main reasons for embracing online education in their strategic planning efforts.

Online postsecondary degrees conferred during the 2005–2006 school year by degree level indicated 682,000 associate's degrees; 1,456,000 bachelor's degrees; 584,000 master's degrees; 85,100 first-professional degrees; and 49,500 doctor's degrees (Digest of Education Statistics: 2006, 2007). The number of U.S. colleges and universities offering distance learning programs in 2007 by certificate or degree included 1674 Certificates; 2022 Associate Degrees; 1489 Bachelor Degrees; and 1177 Advanced Degrees (National Center for Education Statistics, 2008).

Research suggests that even in the context of increasing financial aid and rapidly growing student numbers the training of university faculty members for online distance education has been limited. Grant (2004) demonstrated that the training of faculty members has been handled primarily through voluntary seminars and classes in professional development centers of the various universities and colleges. Given the rising percentage of enrollments in online classes and programs and the number of fully online degrees offered at all levels by U.S. universities, the issue of institutional commitment to provide quality online education must be reexamined.

Curriculum and Instruction

Before considering the extant literature, we must first consider exactly how curriculum and instruction are defined. Posner (1995) pointed out the presence of differing views on what exactly curriculum is. While some see curriculum as defining the content and objectives of instruction others see it as the instructional strategies teachers use to achieve defined learning outcomes. Still others point out the difficulty of

separating the ends from the means to achieve those ends. Traditional instruction has been defined as the complex of instructional activities designed to impart learning (Kauchak & Eggen, 2003). Online, or Web-based instruction, is defined as the design and delivery of instructional resources via the World Wide Web for the purpose of obtaining observable and measurable outcomes in student learning (Dabbagh & Bannan-Ritland, 2005). According to these definitions there appears to be some degree of overlap between curriculum and instruction, especially in terms of educational plans and strategies to achieve learning outcomes.

The regional accrediting agencies treat online curriculum and instruction as related entities for accountability and oversight purposes (Commission on Institutions of Higher Education, 2007). They address collegiate level learning outcomes, the participation of academically qualified persons in program curricula including its presentation, management, and assessment, and the presence of appropriate interaction in course and program design. Posner (1995) also points out that once teaching plans and learning outcomes have been formalized, “we have also established the rationale for holding teachers accountable both for the effectiveness of their plans and for the implementation of curricula” (p. 5).

Research studies addressing online curriculum and instruction in higher education have appeared regularly in academic journals over the past 10 years. The review of the literature in 32 of the peer-reviewed journals between 2003 and 2008 revealed 121 studies and articles addressing various aspects of online curriculum and instruction across discipline, academic level, and methodology. The research reported a number of relevant findings, all of which pointed out clear distinctions between online and conventional

face-to-face curriculum and instruction. Key differences were found in course design and delivery, pedagogy, technology use, student characteristics, learning styles and learning outcomes, educational resources, and knowledge acquisition.

Research findings in the area of curriculum are much more fragmentized than those in either traditional or online instruction. Posner (1995) explored a broad base of studies and models on curriculum. The scope and sequence of curriculum as a set of learning outcomes was examined. Here curriculum is used to guide both instructional and educational decisions. The syllabus was found to encompass goals and course rationale, resources and assignments, and evaluation strategies. In this way, the syllabus represented both means and ends of a course. Posner also found that curriculum had often been equated with a content outline where course objectives and instructional methods were not included. Textbooks were sometimes used as both the means and the end of some approaches to curriculum, providing content, teacher guides, tests, and other instructional materials. Curriculum was also seen by many as a course of study or a set of such courses, approaching the traditional dictionary definition. Here the student is led on a path of learning to a particular destination. Posner also found progressive educators who approached curriculum as planned experiences for students rather than seeing it as either content or learning. These educators were the forerunners of the constructivists who plan their curricula around the idea that students use their experiences to develop meaning, understanding, and learning (Kauchak & Eggen, 2003).

Dabbagh and Bannan-Ritland (2005) recognized that today's online learning environments "have radically changed the way individuals learn" (p.3). They explore in great depth the evidence-based concepts, principles, and practices that underlie online

learning. They found three key components of online education that promote meaningful interaction and learning. These were instructional and learning strategies, learning technologies, and pedagogical models or constructs. Here the pedagogical models are based on learning as a process that informs the design of the online learning environment through both synchronous and asynchronous learning technologies.

Various methods of instructional delivery have also been examined in the research literature. Malinski (2004) explored virtual learning environments (VLEs), the virtual seminar, and the E-Learning Plan (ELP) of Canada's Athabasca University. Downes (2001) described the benefits of reusable learning objects. Muirhead and Betz (2005) described web-based educational resources. Studies of five universities (Daley, 2001) revealed variables through which online learners acquire, integrate, and use knowledge. These variables include user perceptions, peers and facilitators, and specific learning tasks. Other studies also found significant correlations between online perceptions and learning (Drennan, Kennedy, & Pisarski, 2005; Tricker, 2001). One survey of online graduate students found that online course design, pedagogy, technology, student characteristics, and needs exist as variables in student learning (Rovai & Barnum, 2003). Zhang (2004) established that course design and implementation remained foundational for effective online learning.

The previously described studies reveal significant information about the differences between online instruction and conventional face-to-face instruction. The research covers various methods of online delivery from virtual seminars to reusable learning objects and web-based resources and learning outcomes. Differences in online learner characteristics, perception, and knowledge acquisition have been studied. Issues

related to online instructional design and delivery, pedagogy, and educational technologies continue to generate higher education research interest.

Although the research reveals relevant information for educators, the studies fail to address the newly established national standards of online best practices against which to measure quality. The document, *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007), details the research-based components of quality curriculum and instruction. The quality components provide essential tools for measuring institutional online program quality as defined by the eight regional accrediting agencies for U.S. higher education. Alignment with these policies and practices can add to the quality of online curriculum and instruction in U.S. universities and enhance student learning.

Faculty and Student Support

Institutional support for faculty and students continues as a key area of concern when examining U.S. university online practices. A primary issue continues to be the support for teachers who in turn provide the main support for students in the learning process. Research identifies teachers as the key factor in student achievement (GAO Report to Congressional Committees, 2002). Issues related to faculty support include training for online instruction, workload and compensation for online teaching, and the technical support required for effective online delivery.

One study examined the assessment of university faculty training and professional development programs (Irani & Telg, 2002). The programs in the 14 higher education institutions surveyed occurred primarily in voluntary situations and consisted of various class lengths, content, and formats. The actual training for these professional

development programs was left to individual departments. Respondents raised the importance of a strategic plan for distance education that includes improved facilities, better support, more incentives, and classes on teaching methods.

Unfortunately, even in these professional development centers and programs the opportunities for professional development related to online teaching remained voluntary, unsystematic in their approach and content, sporadic in their offerings, and not well attended. In addition, the research offers no evidence that any of the instruction for online teaching considers the newly established standards of quality in online practice. The vast majority of university teachers in all disciplines continue to teach without training for either conventional classroom instruction or the unique aspects of online instruction.

The best practices document (Commission on Institutions of Higher Education, 2007) deals with a range of institutional practices related to faculty support. The best practices document addresses faculty support in terms of workload, compensation, and ownership of intellectual property. It also addresses the provision of appropriate technical, instructional, and production support for participating faculty members. Further, both orientation and training can assist in helping online instructors become proficient in the uses of the program's technologies. Finally, the document points to the importance of faculty members working directly with students to orient and train them in the uses of the online technologies, including strategies for effective interaction.

The best practices document (Commission on Institutions of Higher Education, 2007) also addresses quality standards for student support in online higher education programs with a number of considerations. Student diversity, both geographically and demographically, exists as a 21st century reality that must be addressed in both policy

and practice. The requisite skills, curriculum design, time frame, and learning objectives must be made clear to prospective online students. Institutional commitment must encompass administrative, financial, and technical matters. Appropriate services and procedures from technical support to library access, financial aid information, and the provision of a sense of community for off-campus students also define critical areas of student support.

Concerning the critical matters of faculty and student support, the best practices document reveals a need for a re-examination of university practices related to online programs. A comprehensive professional development course or series of workshops addressing the related online best practices would have to be both comprehensive and widespread among online university teachers to be effective at the online program level. There exists no evidence in the research that such a course or series of workshops currently exists.

Without consideration of the breath and depth of the entire best practices document (Commission on Institutions of Higher Education, 2007), there remains missing elements in both the content and thoroughness of any professional development training. Critical elements of technical, instructional, and production support necessary to deliver quality online instruction could be missed without the systematic training of all online university instructors. With no consideration of the best practices for the support of online students, there remains the potential for services, procedures, practices, and policies to continue out of self-reported compliance with the new Commission on Colleges' online quality standards.

Evaluation and Assessment

Research into online higher education program evaluation and assessment has provided a number of studies and models for examination. The research again demonstrates the significant differences between conventional and online evaluation and assessment measures. Shaw (2000) led an implementation and evaluation study of a major project in the U.S. funded by Leeds Metropolitan University, Sheffield Hallam University, and Plymouth University. The project involved the implementation of a web-based system that facilitated instructors in the planning, delivery, and assessment of key skills provision as well as helping students to achieve their personal goals for skills development. Their mixed-method study of 1000 undergraduate students led to the conclusion that a matrix approach could examine a range of evaluative variables in their relation to designated purposes. A validation study determined the components of the matrix. The study revealed a balance in addressing technical and academic issues and the use of both formative and summative evaluations.

Williams (2002) directed an evaluation study of 11 Internet-based courses. The study found evaluation could be a valuable tool when all the stakeholders became systematically involved in the process. The study used questionnaires and interview protocols as well as focus groups and email discussions for its data gathering techniques. Faculty members gained valuable insight into their use of technology and looked for ways to improve their courses. Students realized that their feedback was being incorporated.

Another evaluation study by Ryan, Hodson-Carlton, and Ali (2005) investigated nursing faculty that taught online. The study developed a matrix that defined the extent of

instructor's engagement in online teaching. A national validation questionnaire confirmed the major elements of the matrix with 68 faculty members from 28 nursing colleges. The elements of instructor engagement confirmed in the study included antecedent conditions, context, strategies, and outcomes. Interviews followed the validation study.

The studies revealed a variety of approaches to the evaluation and assessment of online programs. The matrix approaches, although useful, varied significantly in their component parts. The studies did not always consider planning, delivery, and assessment of key skills provision for both instructors and students. Each study concerned an online rather than a campus-based program making both the formative and summative evaluations uniquely different to construct and implement. While the studies lacked standards of quality against which to assess them, many of the practices used in the online evaluation and assessments proved to be effective.

In the development of strategies and tools to evaluate faculty effectiveness in online distance education, research suggests it useful to utilize an approach that considers: (a) the input of stakeholders (Novak, 2002; Williams, 2002); (b) established learning and performance outcomes (Cochran-Smith & Zeichner, 2005; Dabbagh & Bannan-Ritland, 2005); (c) research-based findings related to pedagogical models, instructional strategies, and learning technologies (Dabbagh & Bannan-Ritland, 2005; Drennan, Kennedy, & Pisarski, 2005); and (d) cost-effectiveness, efficiency, scalability, and flexibility across disciplines and academic levels (Muirhead & Betz, 2005).

Like institutional context and commitment, curriculum and instruction, and both faculty and student support, evaluation and assessment in online higher education needs reexamination in light of the newly established national quality standards. Research

reflecting current university online evaluation and assessment policies and practices needs to be undertaken in light of the comprehensive best practices established by the Commission on Colleges for online distance education programs.

Evidence-Based Practice

The document *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007) comprehensively and systematically defines the five separate components of institutional activity relevant to online distance education: 1) institutional context and commitment, 2) curriculum and instruction, 3) faculty support, 4) student support, and 5) evaluation and assessment. Together they constitute the evidence-based online practices and standards established by the eight regional Commission on Colleges that accredits all U.S. university academic programs, both conventional and online.

The institutional context and commitment component of the best practices document addresses key policies and practices concerning the role of online programs in higher education institutions. The components include such things as infrastructure planning, budgets, technical facilities, resources, and policies. Other elements include consistency with the institution's mission and educational goals, accreditation requirements and curricular commitments. Legal and regulatory requirements related to copyright law and students with disabilities complete the document components.

The curriculum and instruction component of the accrediting agencies document encompasses a range of policies and practices from pedagogy to learning outcomes in an online environment. The diversity of distance education students must be considered and also the coherence and completeness of the online program. The curriculum and

instruction component also points to instructor qualifications, changing faculty roles in planning and implementing online curriculum, and assuring teacher and student interaction as other considerations.

The faculty support component of the best practices document addresses policies and practices related to the support of instructors in their online roles. Policies and practices associated with intellectual property rights, increased training necessary for online instruction and changing approaches to pedagogy, instructional design, and student assessment find consideration in the document. Both the orientation to, and ongoing support in the use of, instructional technologies have been detailed. Each of these components involves specific important policies and practices related to faculty support.

The student support component of the best practices document addresses a number of key policies and practices. The components include practices related to the diversity of online student populations as well as student skills necessary for successful online learning. Other components include student access to educational resources and the technologies required to participate online. Interactions between teachers and students and among fellow students represent other considerations. Administrative, financial, and technical matters such as enrollment and advising form other parts of the student support component. Financial aid, online payments, and the provision of appropriate policies and procedures to assure the success of online students comprise still other components of student support in the best practices document.

The evaluation and assessment component of the document details policies and practices that consider both the online programs and student achievements in the programs. Alignment of student performance with intended learning outcomes and

teaching effectiveness make up other elements of the evaluation and assessment component. Assurance of the veracity of student work, the protection of personal information, and student expectations and satisfaction are other factors. Student aptitude in fundamental skills for technology uses and comprehension are still other components. Finally, institutional self-assessment related to the use of technologies, resources, and service provisions complete the evaluation and assessment component of the best practices document.

Each of the five components of the best practices document addresses in detail "specific matters describing those elements essential to quality distance education programming" (Commission on Institutions of Higher Education, 2007, p. 2). The best practices document makes clear the purpose of describing each of the five elements in detail. The design of the document guides institutions "in determining the existence of those elements when reviewing either internally or externally distance education activities" (Commission on Institutions of Higher Education, 2007). The current study offers initial data describing the state of online evidence-based policy and practice in U.S. research-extensive universities. Through the knowledge gained, universities may begin to address their own online policies and practices in the comprehensive way defined by the eight regional accrediting agencies for U.S. colleges and universities.

Summary and Problem Statement

The eight regional accrediting agencies for U.S. higher education have defined a number of critical factors influencing the quality of online higher education. These factors include university policies and practices related to institutional context and commitment, online curriculum and instruction, faculty and student support, and

evaluation and assessment for online programs. Although the individual research studies reveal extensive information about online education, the studies fail to recognize the newly established national standards of online best practices in U.S. higher education against which to assess quality.

Research on national quality standards in online higher education appears much less frequently than any of the five critical areas reviewed in the extant literature. A search of the ERIC, EBSCO, and Education Full Text databases between the 2003 and late 2008 provided only five peer-reviewed research studies and industry articles addressing national standards in online higher education. It must be noted that of these only two were published since 2004. Failure to address the critical issue of national online quality standards in practice has already created problems in both British and Australian universities. In the early part of Britain's online course and program development, three quarters of the 5000 online courses developed by 1500 British universities and private companies "failed to meet standards" (Goddard, 2000, June 2, p. 72). The report found that Australia's Greenwich University's online programs and degrees failed in "the standard of courses, quality assurance mechanisms, and academic leadership" (Maslen, 2001, January 12, p. A35).

The document *Best Practices for Electronically Offered degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007) provides for the first time the comprehensive research-based components of quality in online distance education as defined by the eight regional accrediting agencies for U.S. higher education. It encompasses all of the essential components for planning and assessing high standards of quality in U.S. university online programs. It defines the critical areas of best practices

in online higher education programs: institutional context and commitment, curriculum and instruction, faculty support, student support, and evaluation and assessment. Specific institutional policies and practices make up the majority of the best practices document in of each of the five key areas. As a whole, the best practices established by the Commission on Colleges constitute a national standard against which to plan online programs and evaluate quality in existing U.S. university online programs.

The purpose of the current study is to examine university policies and practices for online education by investigating the state of evidence-based online practice in U.S. Doctoral/Research-Extensive Universities. In doing so, the study utilizes the five foundational components of online educational activity defined by the eight regional accrediting agencies for U.S. higher education. Institutional context and commitment, curriculum and instruction, faculty support, student support, and evaluation and assessment comprise the five core components (Commission on Institutions of Higher Education, 2007).

Existing research reveals a lack of information describing the online policies and practices of universities in ways consistent with the national quality standards. U.S. colleges and universities that comply with accrediting agency standards may serve to enhance the quality of online higher education courses and programs. Compliance may also enhance the quality of the online teaching and student learning in ways defined in the policy and practice standards document. Such compliance includes a high level of institutional commitment to online programs, curriculum and instruction driven by pedagogy and learning outcomes, both training and support for teachers, student orientation and support, and effective evaluation and assessment. Compliance with

defined quality standards may also help assure the accreditation of U.S. university online programs, certificates, and degrees.

Research Question

Based on the extant review of the literature and the previously discussed problem statement, this study responds to the following research question: What are the policies and practices for online education at U.S. Doctoral/ Research-Extensive Universities in each of the five areas of online institutional activity defined by the eight regional accrediting agencies for U.S. higher education: (a) institutional context and commitment, (b) curriculum and instruction, (c) faculty support, (d) student support, and (e) evaluation and assessment?

CHAPTER 2

METHOD

This exploratory research study provided initial data in the five key areas of online institutional activity in U.S. Doctoral/Research-Extensive Universities as defined in the document *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007). The key areas of online institutional activity are: (a) institutional context and commitment, (b) curriculum and instruction, (c) faculty support, (d) student support, and (e) evaluation and assessment. The findings from this study are intended to develop a better understanding of evidence-based policy and practice in U.S. online higher education settings.

The descriptive study initiates an investigation of U.S. university online policies and practices by examining the evidence-based practices of 25 Doctoral/Research-Extensive Universities. The study uses survey research (Drew, Hardman, & Hosp, 2008) to describe the online practices of participating U.S. Doctoral/Research-Extensive Universities. The survey questions abridge the Commission on College's quality standards for higher education online programs as described above. The Commission on Colleges is the U.S. Department of Education's accrediting agency for all college and university programs, including all of their online programs, and their best practices

document provides the first national standard for online higher education in accredited U.S. colleges and universities.

The present study addresses the central problem of a lack of research describing the institutional online policies and practices of U.S. universities in the comprehensive way defined by the new quality standards. The description of current university online activities in a manner consistent with the best practices document (Commission on Institutions of Higher Education, 2007) will serve to inform researchers, educators, and institutions on the actual quality of U.S. online higher education policies and practices in all five areas of institutional activity. It will also help to assure the accreditation of U.S. university online programs, certificates, and degrees by pointing to those areas that need to be brought into closer self-reported compliance with the defined national online quality standards.

Survey Participants

The participants in this study were from Doctoral/Research-Extensive Universities as defined by the Carnegie Foundation for the Advancement of Teaching (2007). Carnegie identifies 152 Doctoral/Research University Extensive Institutions nationally: 102 public and 50 private.

The Chief Information Officers (CIOs) of all of the 152 universities received invitations to participate and the 25 that responded affirmatively became part of the findings of the study. The CIOs direct the vision and application of technology use for U.S. higher education institutions including the many academic aspects of technology integration and operation. The CIO is also a high level provost or vice president level position usually reporting to the university President and therefore very tied to policy

decisions. The qualifications make the CIOs the right people for study participation. The CIO, or the identified individual holding an equivalent position, represents the actual participant in the survey for each contributing university. There was no attrition of participants. The 25 CIOs that started the survey also completed it.

Instrumentation

The study uses a purpose-built Likert-scale survey of 29 questions and one open-ended question to describe participant university online policies and practices. The survey has five domains consistent with the document, *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007). The domains include: (a) institutional context and commitment, (b) curriculum and instruction, (c) faculty support, (d) student support, and (e) evaluation and assessment. Each survey question had assignment in the corresponding domain. The open-ended question clarifies one of the preceding questions (Appendix B).

Domain 1, Institutional Context and Commitment, consists of nine questions that inquire into the online policies and practices of the participating universities. Questions inquire into institutional context and commitment and ask participants to indicate the name of the accrediting agency for their institution. Domain 2, Curriculum and Instruction, consists of five questions that inquire into the online policies and practices of the participating universities related to curriculum and instruction. Domain 3, Faculty Support, consists of four questions that inquire about the online policies and practices of the participating universities related to faculty support. Domain 4, Student Support, contains four questions that inquire into the online policies and practices of the participating universities related to student support. Domain 5, Evaluation and

Assessment, consists of six questions that inquire about the online practices of the participating universities related to evaluation and assessment. Overall, the core 28 questions represent an abridgement of the online quality standards addressed in the Commission on Colleges document (Commission on Institutions of Higher Education, 2007).

A pilot test established technical adequacy of the survey instrument. Two U.S. university CIOs whose institutions had designations apart from the Carnegie Doctoral/Research-Extensive Universities designation participated in the pilot test. Participating individuals completed the survey and provided feedback on the process as well as on survey content and structure. Based on participant feedback, the modified survey added a guideline that provided information on where participants had advanced to in completing the survey. Comments from pilot test participants described the survey as comprehensive, clear, and manageable to complete within approximately 10 minutes.

Design

An online Likert scale survey from the *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007) was developed in order to describe U.S. university online policies and practices. Two university CIOs who were not part of the formal research participated in a pilot study by validating the 29 survey questions. Their feedback informed the process by adding a participant progress indicator and confirming the soundness of the content and time required for completion. Participants indicated agreement or disagreement with the statements on a 6-point rating scale where the designations indicated: (a) strongly agree; (a) mostly agree; (c) somewhat agree; (d) somewhat disagree; (e) mostly disagree; and (f)

strongly disagree. The option to answer any question with not applicable (N/A) completed the available choices.

The questions illustrate specific policies and practices in the five areas of institutional activity defined in the best practices document. The non-parametric ordinal data recorded for each question represent the combined responses of all participating universities. The data occur as aggregate percentages on the 6-point rating scale where the designations indicate: strongly agree; mostly agree; somewhat agree; somewhat disagree; mostly disagree; and strongly disagree. Aggregate percentages also provide data on the N/A selection for any question. Results of the open-ended question, reported as a footnote to the relevant survey question, complete the design.

Procedures

A letter of support for the study from the investigator's Graduate Supervisory Committee Chair followed the identification of the 152 Doctoral/Research-Extensive University CIOs or their equivalents. Follow-up emails and telephone calls described the framework and purpose of the study. The correspondence indicated the approximate time needed to complete the survey online and invited the CIOs to participate. Each participant received instructions via an email hyperlink to the online survey website. An online consent form preceded the actual survey. The online survey consisted of check boxes for each of the survey questions. The completed survey, submitted automatically, required no further action from participants. A thank you email followed that included a link to the complete best practices document (Commission on Institutions of Higher Education, 2007).

Survey Monkey (www.SurveyMonkey.com) hosted the survey online. The survey was titled, “Evidence-Based Practice in Online Higher Education.” Survey Monkey permitted the construction of multiple questions allowing construction consistent with the Commission on Colleges’ five areas of institutional activity (Commission on Institutions of Higher Education, 2007). The hosting site also maintained the confidentiality of participant’s information by limiting access to the individual participant’s online identifiers.

Data Analysis

Respondent data was reported as aggregate percentages that defined the frequency of responses for each of the six points of the survey rating scale. For example, on question one the aggregate responses were 64.0% strongly agree, 24.0% mostly agree, etc. This was completed for each of the 28 core questions. Data on the open-ended question were reported as a footnote. Data on the individual questions were reported in the table entitled University Online Practices. The survey construction also enabled recording frequency of responses in each of the five domains of institutional activity. Results were tabulated for each of the domains and the data reported as aggregate percentages that again defined the frequency of responses. The data on the five domains of institutional activity were reported in a second table - Summary of University Online Practices by Institutional Activity.

Descriptions of the online policies and practices of participating universities became possible from the survey data reported in the two tables. Responses to the individual survey questions provided aggregate data on the specific policies and practices for online education at the participating universities. Aggregate data on the five domains

supplied information enabling descriptions of institutional activity in the key areas defined by the regional accrediting agencies. The two sets of data addressed directly the research question posed in the study.

CHAPTER 3

RESULTS

The sample for the study includes 25 universities. All of the participating universities have the Carnegie Foundation for the Advancement of Teaching (2004) classification of U.S. Doctoral/Research-Extensive Universities (see http://www.carnegiefoundation.org/). Of the 25 participating universities, 19 were from U.S. public universities and six were from U.S. private universities. Participating institutions included those among the smallest number of student enrollments, those in the range of medium-sized enrollments, and those among the largest student populations as defined by the Carnegie Foundation for the Advancement of Teaching. All universities evidenced well-developed graduate level programs and most also offered a broad range of undergraduate programs. Specialty discipline institutions represented a minority of participants. Geographically, the universities represented the Northeast, Midwest, South, and West of the country. The universities originated from small towns, medium-sized cities, and large cities as defined by the U.S. census. The universities came from both rural and urban settings. Participating universities also had varying levels of online course and program offerings.

The participants in each case held the position of university CIO or an equivalent position in charge of educational technology activities within the university

administrative structure. The 25 university officers from the 152 U.S. Doctoral/Research-Extensive Universities participated through self-selection after both mail and email correspondence describing the study and inviting them to participate. The level of participation demonstrated a 16.5 % response rate, a level surpassing by several points the adequacy consensus for mailed questionnaires as described by Drew, Hardman, and Hosp (2008). Six university officers also registered and read through the online survey instrument before deciding not to participate. This option was made available to all of the 152 university officers initially contacted.

The online survey instrument consisted of 29 Likert-scale questions and one open-ended question to clarify participant responses to question number two. Each of the 25 participants answered all questions with the exception of 24 responses on question number ten and 19 responses to the open-ended question. The survey results are viewed in two tables: Table 1 and Table 2: Table 1 – University Online Practices, and Table 2 – Summary of University Online Practices by Institutional Activity. Frequency of responses was reported as aggregate percentages for participants on each of the six designations on the Likert-scale survey: Strongly Agree (SA), Mostly Agree (MA), Somewhat Agree (SWA), Somewhat Disagree (SWD), Mostly Disagree (MD), and Strongly Disagree (SD). A choice of Not Applicable (N/A) was an option for each survey question. Results of the open-ended question were reported as a footnote to the relevant survey question. The data directly addressed the research question posed in the exploratory study. Questions 1-10 examined institutional context and commitment; questions 11-15, curriculum and instruction; questions 16-19, faculty support; questions 20-23, student support; and questions 24-29 addressed evaluation and assessment.

Table 1

University Online Practices [a]
(100% = Full Accrediting Agency Compliance)

Question	SA	MA	SWA	SWD	MD	SD	N/A
1. Our institution is aware of the accreditation requirements for online programs.	64.0%	24.0%	4.0%	0.0%	0.0%	0.0%	8.0%
2. Our institution complies with the accrediting institution requirements for online programs. If yes, indicate the name of the accrediting institution in the field below. [*]	64.0%	24.0%	0.0%	4.0%	0.0%	0.0%	8.0%
3. Our institution's budgets and policy statements reflect its commitment to the students for whom its electronically offered programs are designed.	28.0%	32.0%	24.0%	4.0%	8.0%	4.0%	0.0%
4. Our institution assures adequacy of technical and physical plant facilities including appropriate staffing and technical assistance, to support its electronically offered programs.	32.0%	36.0%	20.0%	4.0%	8.0%	0.0%	0.0%
5. There is a clear, well-understood process by which the electronically offered program has developed/is developing from conception to administrative authorization to implementation.	32.0%	20.0%	32.0%	4.0%	8.0%	4.0%	0.0%

[*] 16 participants named one of the eight accrediting agencies, 3 named other agencies, 6 did not respond with a name.

Table 1 continued

Question	SA	MA	SWA	SWD	MD	SD	N/A
6. In its articulation and transfer policies our institution judges courses and programs on their learning outcomes, and the resources brought to bear for their achievement, not on modes of delivery.	20.0%	40.0%	24.0%	8.0%	4.0%	4.0%	0.0%
7. Our institution strives to assure a consistent and coherent technical framework for students and faculty that assures that when a change in technologies is necessary it is introduced in a way that minimizes the impact on students and faculty.	36.0%	44.0%	20.0%	0.0%	0.0%	0.0%	0.0%
8. Our institution provides students with reasonable technical support for each educational technology hardware, software, and delivery system required in our online program.	44.0%	36.0%	16.0%	0.0%	4.0%	0.0%	0.0%
9. Our selection of technologies is based on appropriateness for students and the curriculum recognizing the match between technology and program.	48.0%	36.0%	16.0%	0.0%	0.0%	0.0%	0.0%
10. Our institution seeks to understand the legal and regulatory requirements of its operating jurisdictions.	58.3%	29.2%	12.5%	0.0%	0.0%	0.0%	0.0%

Table 1 continued

Question	SA	MA	SWA	SWD	MD	SD	N/A
11. As with all curriculum development and review, our institution assures that each online program of study results in collegiate level learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded.	56.0%	28.0%	8.0%	8.0%	0.0%	0.0%	0.0%
12. Academically qualified persons participate fully in the decisions concerning program curricula and oversight incl. presentation, management, and assessment.	72.0%	16.0%	12.0%	0.0%	0.0%	0.0%	0.0%
13. In designing an electronically offered program, our institution provides a coherent plan for students to access all courses necessary to complete the program.	60.0%	20.0%	20.0%	0.0%	0.0%	0.0%	0.0%
14. In considering consortial agreements, attention is given to issues such as assuring that enhancing service to students is a primary consideration and that incentives do not compromise the integrity of the institution or program.	28.0%	36.0%	12.0%	4.0%	0.0%	0.0%	20.0 %
15. The importance of appropriate interaction is reflected in the design of our program and its courses, and in the technical facilities and services provided.	52.0%	28.0%	16.0%	4.0%	0.0%	0.0%	0.0%

Table 1 continued

Question	SA	MA	SWA	SWD	MD	SD	N/A
16. In the development of an electronically offered program, our institution and its participating faculty have considered issues of workload, compensation, evaluation, and ownership of intellectual property resulting from the program.	32.0%	32.0%	28.0%	4.0%	4.0%	0.0%	0.0%
17. Our institution provides an ongoing program of appropriate technical, design, and production support for participating faculty members.	28.0%	52.0%	16.0%	0.0%	4.0%	0.0%	0.0%
18. Our institution provides to program developers the orientation and training to for proficiency in the uses of the program's technologies, including changes in course design and management.	28.0%	56.0%	12.0%	0.0%	4.0%	0.0%	0.0%
19. Our institution provides to those responsible for working directly with students the orientation and training for proficiency in the uses of the technologies for these purposes, including strategies for effective interaction.	20.0%	60.0%	12.0%	4.0%	4.0%	0.0%	0.0%
20. Our institution has a commitment - administrative, financial, and technical - to continuation of the program to complete in a publicized timeframe.	52.0%	36.0%	8.0%	0.0%	0.0%	0.0%	4.0%

Table 1 continued

Question	SA	MA	SWA	SWD	MD	SD	N/A
21. Our institution has policies and procedures in place to implement and evaluate the important components of online admissions and retention.	40.0%	16.0%	24.0%	12.0%	4.0%	4.0%	0.0%
22. Our institution recognizes that appropriate services must be available for students of electronically offered programs, using the working assumption students will not be physically on campus.	36.0%	28.0%	24.0%	4.0%	8.0%	0.0%	0.0%
23. Our institution recognizes that a sense of community is important to the success of many students, and that an ongoing, long-term relationship is beneficial to both student and institution and takes this into account.	40.0%	32.0%	16.0%	8.0%	4.0%	0.0%	0.0%
24. Documented assessment of student achievement is conducted in each online course and at the completion of the program, by comparing student performance to the intended learning outcomes.	16.0%	56.0%	16.0%	8.0%	0.0%	4.0%	0.0%
25. When examinations are employed (paper, online, demonstrations of competency, etc.), they take place in circumstances that include firm student identification to assure the integrity of student work.	44.0%	44.0%	4.0%	4.0%	4.0%	0.0%	0.0%

Table 1 continued

Question	SA	MA	SWA	SWD	MD	SD	N/A
26. Documented procedures assure security of personal information is protected in the conduct of assessments and evaluations and in the dissemination of results.	60.0%	28.0%	8.0%	4.0%	0.0%	0.0%	0.0%
27. Program effectiveness is determined by matching learning with outcomes, meeting student intentions, student retention, student satisfaction, faculty satisfaction, provision of access to students, appropriate use of learning resources, student communication skills, and cost effectiveness.	20.0%	40.0%	24.0%	12.0%	4.0%	0.0%	0.0%
28. Our institution conducts continual self-evaluation toward online program improvement, for effective uses of technology, student achievement of intended outcomes, improved retention rates, effective use of resources, and demonstrated improvements in services.	28.0%	24.0%	24.0%	12.0%	4.0%	8.0%	0.0%
29. Institutional evaluation of electronically offered programs takes place in the context of the regular evaluation of all academic programs.	40.0%	32.0%	12.0%	8.0%	0.0%	8.0%	0.0%

[a] Frequency of Responses (N=25, except 19 on open-ended question and 24 on question 10).
Likert-scale: SA = Strongly Agree; MA = Mostly Agree; SWA = Somewhat Agree; SWD = Somewhat Disagree; MD = Mostly Disagree; SD = Strongly Disagree; N/A = Not Applicable.

Line breaks between certain questions indicate five areas: Questions 1-10 Institutional Context and Commitment; Questions 11-15 Curriculum and Instruction; Questions 16-19 Faculty Support; Questions 20-23 Student Support; and Questions 24-29 Evaluation and Assessment.

Table 2

Summary of University Online Practices by Institutional Activity [a]
(100% = Full Accrediting Agency Compliance)

Institutional Activity	SA	MA	SWA	SWD	MD	SD	N/A
Institutional Context and Commitment (Questions 1-10)	42.6%	32.1%	16.9%	2.4%	3.2%	1.2%	1.6%
Curriculum and Instruction (Questions 11-15)	53.6%	25.6%	13.6%	3.2%	0.0%	0.0%	4.0%
Faculty Support (Questions 16-19)	27.0%	50.0%	17.0%	2.0%	4.0%	0.0%	0.0%
Student Support (Questions 20-23)	42.0%	28.0%	18.0%	6.0%	4.0%	1.0%	1.0%
Evaluation and Assessment (Questions 24-29)	29.3%	32.0%	20.0%	10.7%	2.7%	5.3%	0.0%
Summary - All Areas	40.7%	34.0%	16.0%	4.1%	2.6%	1.2%	1.4%

[a] Frequency of Responses (N=25 except 24 responses on question 10 in Table 1).
Likert-scale: SA = Strongly Agree; MA = Mostly Agree; SWA = Somewhat Agree;
SWD = Somewhat Disagree; MD = Mostly Disagree; SD = Strongly Disagree; N/A = Not Applicable

The guiding research question for the exploratory study asked, What are the policies and practices for online education at U.S. Doctoral/ Research-Extensive Universities in each of the five areas of online institutional activity defined by the eight regional accrediting agencies for U.S. higher education: (a) institutional context and commitment, (b) curriculum and instruction, (c) faculty support, (d) student support, and (e) evaluation and assessment?

The reporting of data results received from the 25 U.S. doctoral/research-extensive universities in the Evidence-Based Practice in Online Higher Education Survey has been completed.

CHAPTER 4

DISCUSSION

Standards in Online Higher Education

Study design dictates that a discussion of the online policies and practices of the 25 U.S. Doctoral/Research-Extensive Universities participating in the study take place in the wider context of quality standards for online higher education. Research on the Three Phases in the development of online standards provided contextual background for understanding the workings of participating higher education institutions. Over the Three Phases, quality standards could initially not be found, next saw individualization of standards by institution or discipline, and finally became standardized nationally. Of note, many of the policies and practices became implemented by U.S. colleges and universities years before their formalization into the national online standards.

The characteristics of accreditation, standards, and online standards were noted in order to better understand the distinctions and relationships between the key terms in this discussion. Finally, the current policies and practices of participating universities were introduced in the context of the 2007 national online standards document (Commission on Institutions of Higher Education, 2007). At a time when online enrollment rates in U.S. higher education were shown increasing at nearly ten times that of campus-based

enrollment (Sloan Consortium, 2007), the matter of national online quality standards became critically important for institutions, students, and employers.

A brief look back at the history and development of higher education standards in U.S. universities provides a context for understanding the current state of national quality standards and hence also the survey response data. The understanding may have important implications for both current practice and future research. The literature reviewed for the study revealed a new model of the evolution of quality standards. Research evidenced distinct phases in the development of quality standards for U.S. online higher education. They were given the designations in the exploratory study as the Three Phases: the Early Phase, the Middle Phase, and the Current Phase.

The Early Phase of U.S. online standards development occurred from the early 1950s to the early 1990s. In the Early Phase, researchers recognized that the key users and end users of higher education, students and employers, required a certain level of confidence in the providers of instruction. The concerned end users demanded that "qualifications attest accurately to past achievement and current ability" and that "standards represented by higher education qualifications need to be explicit and, in an employment market that is increasingly global, qualifications must have a universal currency" (Randall, 2002, p. 188). The concerns raised by researchers, students, and employers saw no widespread follow-up by U.S. higher education institutions in the Early Phase of standards development.

Research during the Middle Phase of U.S. online standards development, from the early 1990s to the early 2000s, revealed that many standards were developed across academic level and discipline. The research shows that at the same time there existed no

standard of quality against which all programs and disciplines could be measured. We know that an effort in higher education institutions and disciplines worldwide to establish those standards had begun (Watt, 2005). Having no generally accepted quality standards for all U.S. higher education institutions led to an array of differing benchmarks, guidelines, and standards. The experience of the Middle Phase of standards development communicates a great deal about whether having standards results in better learning. Research demonstrated that when left on their own without standards many institutions across numerous disciplines chose to develop their own. There remained also the problem of expecting other institutions to accept the credits accumulated at an institution operating on internally established standards or one that is self-accrediting. Academic rigor may vary widely between the institutions licensed as unaccredited colleges and universities.

The trends in the Current Phase of U.S. online standards development, from the early 2000s and continuing today have moved towards defined quality standards by nationally recognized accrediting agencies. The period has seen the introduction of national online standards of quality for the first time in U.S. higher education. The eight regional accrediting agencies defined their standards through widely accepted values of institutional quality and evidence-based practice (Commission on Institutions of Higher Education, 2007). Programs that comply with the standards are considered as providers of quality policies and practices that achieve the desired outcomes of student learning. Another desired outcome benefited through compliance includes the provision of qualifications that lead to the aim of many students, i.e., employment.

Standards established in the best practices document require quality student learning measured at the institutional level. The standards require depth of commitment,

quality curriculum, and the preparedness of faculty members. The standards also define levels of support needed for students and faculty members and the rigors of an institution's assessment and evaluation measures. Looked at in this context, the current notions of accreditation, quality standards, and online standards take on particular significance and must be explored in the research before understanding their relationship to the survey data.

An examination of research on accreditation in higher education institutions reveals that not all universities are accredited. Further, standards of quality vary widely between them, both in the U.S. and abroad. Contreras (2007) found in his study of U.S. colleges and universities that of the degree-granting institutions recognized by The Council for Higher Education Accreditation "roughly 20% of American colleges and universities are not accredited" (p. B16). Higher education accreditation in the U.S. does not mean authority for higher education institutions to operate, to enroll students, or to award degrees. These powers are the sole province of individual states. Accreditation exists as a process of independent peer review by the eight regional accrediting agencies. The eight agencies all receive continuing recognition by the U.S. Department of Education under the terms of the Higher Education Act of 1965.

The regional accrediting agencies recognize and qualify U.S. institutions of higher education for accreditation based on the merits of their performance, integrity, and quality. In addition to the favorable public perception of accredited institutions versus those like the unaccredited diploma mills, institutions that qualify for accreditation are able to receive federal funding. The federal funding supports both teaching and research and enables students to receive federal financial aid (Northwest Commission on Colleges

and Universities, 2008). Institutional accreditation under the standards established for online certificate and degree programs (Commission on Institutions of Higher Education, 2007) also means major funding advantages for accredited universities and colleges.

The decision to permit the operation of U.S. colleges and universities lies in the hands of the states and the number of unaccredited institutions in the individual states varies widely. California, for example, has 179 unaccredited higher education institutions that grant degrees and Florida has 35 (Contreras, 2007). In California, one may be a licensed lawyer or psychologist with a degree from a non accredited university, and similar variations in standards exist across what are called the "seven sorry sisters." These are "the states with such awful oversight of college quality that they are considered havens for diploma mills" (Contreras, 2007, p. B16).

A degree from one of the many diploma mills currently operating in the "seven sorry sisters" may leave students with less than they expected. Academic credentials may not be transferable to accredited colleges and universities when higher degrees are sought after. Prospective employers may meet degrees from unaccredited institutions with suspicion or non recognition. The number varies but as of 2007 states making the list of "seven sorry sisters" included Alabama, California, Hawaii, Idaho, Mississippi, New Mexico, and either Missouri or Wyoming, depending on the politics of the moment (Contreras, 2007).

A number of questions arise regarding the nature and purpose of having quality standards in online higher education. Each of the questions, in turn, requires a reasoned response to follow. Why is it important to have standards? Do standards result in a better educational experience? Do institutions that adhere to standards have better learning as a

result? Are standards only important because of a quality experience? Is it an administrative or pedagogical choice to have standards? Why would institutions want to know about and follow standards? Why is following standards important for the institution, the faculty, the learner, or other educational stakeholders such as parents of higher education students or the public that pays taxes to help fund our public institutions? Does knowing about and following standards – in any area – result in a better program, better learning, continuous improvement, or more effectiveness?

National standards remain important because students and their families count on their degrees being useful for accomplishing intended learning outcomes, qualifying for advanced degrees, and facilitating employment in their own states and in other states. When future careers for students and tens of thousands of dollars in tuition costs are at stake in such considerations, the question of degrees from accredited institutions rises to critical importance. Because national accreditation standards are based on widely accepted higher education values, evidence-based practice, and independent review higher education stakeholders may expect a quality experience.

The choice to have standards is both administrative and pedagogical. In addition to the benefits already mentioned, colleges and universities profit through access to federal funds for their institutions, teachers, and researchers. Students directly benefit through access to federal financial aid. Students further benefit through the incorporation of evidence-based pedagogy into teacher training, instructional design, and online teaching and learning. These practices assure the necessary orientation and training for online teachers in program technologies and course design, technical and production

support, active student learning, strategies for effective interaction, and other evidence-based pedagogical practices.

A quality learning experience gained through institutional compliance with nationally recognized standards is not the only benefit if an institution hopes to compete in a global economic environment. Roach (2008) pointed out how 4,000 higher education institutions in 46 European countries are establishing learning standards and other measures of accountability. Students at accredited universities in the U.S. may rest assured of a level of learning accepted by the accrediting agencies, other universities, and prospective employers in the U.S. or abroad. Parents and other educational stakeholders likewise benefit from this same assurance of quality.

Because national accreditation standards define the evidence-based components of quality in online higher education, knowing about and following the standards has critical advantage. These quality components include broad based quality programming, the accomplishment of targeted learning outcomes, continuous improvement through self-evaluation, and effectiveness measures across both policy and practice. Institutional compliance with the national online quality standards provides students, their parents, and the tax-paying public with a high level of assurance that these critical components of policy and practice are a part of the educational experience.

Research from the Current Phase of standards development revealed that as of 2005 there were 4,242 degree-granting institutions in the United States that do value the standards set by U.S. Department of Education recognized accrediting agencies (National Advisory Committee on Institutional Quality and Integrity, 2005). Those institutions that comply with accrediting agency standards assure that their students, parents, other higher

education institutions, and employers recognize the institutions as providing a high level of learning. Compliance with standards also benefits the institution, the faculty, and the learner through access to federal research funds, funding to support teaching, and access to federal financial aid for their students.

Before the national online standards, universities across the U.S. undertook the planning, development, implementation, and growth of their own online programs. With no national online standards, a variety of policies and practices arose to meet the needs of the rising numbers of students expressing interest in online education. A careful examination of survey results reveals a varying degree of self-reported compliance with the national online standards, as can be seen in Table 1, i.e., data showing variance from the Strongly Agree option on the Likert-scale. The data indicate a fair degree of self-reported non compliance with the national online standards across the individual policies and practices. Table 2 shows a frequency of response rate of 40.7% strongly agree when all five areas surveyed are averaged. One could conclude that the state of U.S. online higher education appeared at best mediocre across the participating universities.

U.S. universities first introduced the new distance learning technologies to their institutions without the benefit of national quality standards for online higher education. Over the Three Phases of their development, individual universities embraced online distance education at varying levels, years before the accrediting agency quality standards were developed. It is therefore understandable that the participating universities' online policies and practices would be found in varying states of self-reported compliance with national quality standards when examined. It is in the context of these standards that the data may be both described and interpreted. And it is with this background, in the context

of the extant literature, that the research question may be addressed and the missing data supplied. The data in turn provide guidance for bringing institutional policy and practice into full compliance with national standards. The new data are also rich with fertile ground for future research.

Discussion and Interpretation of Aggregate Results of Online Policies and Practices for Participating Doctoral/ Research-Extensive Universities

The research question addressed in the study asked, "What are the policies and practices for online education at U.S. Doctoral/Research-Extensive Universities in each of the five areas of institutional activity defined by the eight regional accrediting agencies for U.S. higher education: (a) institutional context and commitment, (b) curriculum and instruction, (c) faculty support, (d) student support, and (e) evaluation and assessment?" A review of the research findings, examined in the context of the literature cited in the study, provides new insights into the policies and practices of 25 U.S. Doctoral/Research-Extensive Universities previously not available.

The eight regional accrediting agencies for higher education addressed the issue of standards in 2007 by developing the first comprehensive document defining national quality standards for U.S. online higher education programs. The document *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007) represented the first national quality standards for U.S. online higher education. Research up to this time could not have comprehensively addressed key issues related to quality standards for online higher education as the specific areas of institutional activity and their key components were yet to be defined.

This is evidenced by the literature search of the ERIC, EBSCO, and Education Full Text databases between 2003 and late 2008 undertaken for this study. The search revealed only five peer-reviewed research studies and articles out of the 121 reviewed addressing national standards in U.S. online higher education.

The survey instrument used in this study (Appendix B) constitutes an abridgement of the best practices document. The survey results provide missing data in the key areas of online institutional activity defined by the eight regional accrediting agencies. The areas include institutional context and commitment, curriculum and instruction, faculty and student support, and both evaluation and assessment. The key to data interpretation lies in an institutions' self-reported compliance or non compliance with "strongly agree" on the Likert-scale for each question because it corresponds explicitly to the best practices for online quality as established by the accrediting agencies. The choice of "strongly agree" on any question means complete self-reported compliance with the best practices and divergence from it is measured by the other designations on the Likert-scale, i.e., mostly agree, somewhat agree, etc. Complete self-reported compliance of all participating university's online policies or practices with accrediting agency standards would be recorded as strongly agree on the Likert-scale, or 100% in frequency of response to any of the individual survey questions.

The aggregate data for the 25 participating universities in the five areas of online institutional activity reveals significant divergence from 100% self-reported compliance with accrediting agency quality standards, i.e., strongly agree. A discussion of the survey results in each of the five areas of online institutional activity becomes critical to clarify where the university policies and practices exist in relation to the central question posed

in the exploratory research. Data provided from the survey results also address the missing gaps in existing research in the key areas defined by the accrediting agencies for U.S. online higher education.

Institutional Context and Commitment

The institutional context and commitment section of the survey, reported on questions 1 through 10 in Table 1, provides new information on a number of online policy and practice areas for participating universities. New data includes information on the institutions' awareness of accreditation requirements and their self-reported compliance with those requirements. The section addresses for the first time the level of commitment to online programs in the areas of budgets and policy statements as well as the adequacy of technical and physical plant facilities. New data on the process by which online programs developed and both learning outcomes and resources is also reported. Finally, the section provides new data on technical frameworks for changes, on the selection of technologies and the provision of technical support for students, and both legal and regulatory requirements.

Aggregate data reported from the 25 participating universities revealed that 42.6% strongly agreed with the national standards on their policies and practices related to online institutional context and commitment, i.e., questions 1 through 10 on the survey as reported in Table 2. With regards to specific policies and practices in this area of online institutional activity, reported in Table 1, universities were 64.0 % in self-reported compliance on both awareness of and compliance with accreditation requirements. The data indicated 58.3% self-reported compliance with regard to legal and regulatory requirements for participating university online programs. Asked if their institutions'

budgets and policies reflect its commitment to its online students the aggregate response was 28.0% strongly agree.

The data shows how participant responses in the survey more closely align with the national standards when combining strongly agree and mostly agree. Question one in the survey asked if institutions have knowledge of the accreditation requirements for online programs. Survey question two asked if their institution complies with accrediting institution requirements. The combined data for strongly agree and mostly agree in both questions scored 88.0%. The reasons that explain why individual online practices surveyed diverge from self-reported compliance with the standards have yet to be understood.

Survey question number two asked participants to name the specific regional agency that accredits their online programs. The open-ended question received 16 answers naming one of the eight regional accrediting agencies recognized by the U.S. Department of Education. Three named other agencies that included specialty agencies for their particular online programs. Six universities did not respond with a name. The specialty agencies named indicated that the university's online program holds accreditation in a specific discipline rather than a university-wide accreditation. The non-responses may indicate that those in charge of their university's online programs may not have been sure at the time of the name of their accrediting agency for electronically offered programs. It may also mean that participants chose not to respond if their institution had more than one accrediting agency.

Survey question five asked if the process for developing their institution's program has, from conception to administrative authorization to implementation, been

well understood. Just over half of respondents, 52.0% in the combined data (strongly agree plus mostly agree), consider their online programs to have been developed and implemented through a well-understood process. Survey question nine asked if their institution's selection of technologies has been based on appropriateness for students, the curriculum, and the match between technology and program. The question is a critical indicator affecting a number of online policies and practices. The combined score had 84.9% of participating institutions in self-reported compliance with agency standards.

Findings in the area of institutional context and commitment fill in a number of the gaps in the current research. Existing research related to institutional context and commitment to online higher education has come from several areas. These included federal policy changes allowing financial aid to online students (Carnevale, 2005) and evidence showing successes from the 100 higher education institutions whose online students had early access to financial aid (Distance Education Demonstration Program, 2005). The research also showed rapidly growing enrollments in online distance education courses since the new provision in the Higher Education Act (Carnevale, 2005; Allen & Seaman, 2008). Additionally, research demonstrated the almost complete immersion of U.S. higher education institutions into online distance education (Allen and Seaman, 2007; Digest of Education Statistics: 2006, 2007; National Center for Education Statistics, 2008). As shown in the exploratory study, there exists a good deal of new data on the institutional context and commitment area of U.S. universities' online programs.

Curriculum and Instruction

With the exploratory study results, new data now exist in the curriculum and instruction area of online institutional activity. The aggregate score for participating

universities across all of the questions in the area of curriculum and instruction, numbers 11 through 15 in the survey, was 53.6% strongly agree as reported in Table 2. In individual survey questions, reported in Table 1, assurance of collegiate level learning outcomes scored 56.0% and involvement of qualified persons making key decisions was 72.0%. The design of programs for appropriate interaction between the instructor and students and among students revealed a 52.0% self-reported compliance with national quality standards for online higher education. And with regards to whether students have primary consideration in consortial agreements, the aggregate score for participating universities scored 28.0% strongly agree. Of note, question 15 addressed the design of their institution's programs for appropriate interaction between the instructor and students and among students. Results revealed a 52.0% self-reported compliance with national quality standards, just over half. All of the new findings in the area of online curriculum and instruction are reported in Table 1.

While the literature reviewed regarding online curriculum and instruction provided a number of useful findings, none of the research addressed the specific policies and practices defined in the national standards document. Research across academic discipline, undergraduate and graduate level programs, and methodology in 32 peer-reviewed journals from 2003 through 2008 did reveal clear distinctions between online and campus-based curriculum and instruction (Daley, 2001; Drennan, Kennedy, & Pisarski, 2005; Malinski, 2004; Muirhead & Betz, 2005; Rovai & Barnum, 2003; Tricker, 2001; Zhang, 2004). The differences related to course design and delivery, pedagogy, technology use, student characteristics, learning and learning outcomes, educational resources, and knowledge acquisition. The question of university policies and practices

relative to quality online curriculum and instruction should be reexamined in consideration of the new data. Compliance with national standards may add to the quality of online curriculum and instruction in U.S. universities and enhance student learning.

Faculty Support

The best practices document (Commission on Institutions of Higher Education, 2007) deals with a range of institutional policies and practices related to faculty support. The document addressed faculty support in terms of workload, compensation, and ownership of intellectual property. It also addressed the provision of appropriate technical, instructional, and production support for participating faculty members. Further, both orientation and training are considered necessary to help online instructors become proficient in the uses of the program's technologies. Finally, the best practices document addressed the need for faculty members to work directly with students to orient and train them to become proficient in the uses of the online technologies, including strategies for effective interaction. Each of these areas is underrepresented in the existing research literature. Each is directly addressed in the exploratory study.

The key areas of faculty support directly surveyed provide an institutional self-evaluation of where the 25 participating universities exist in relation to the faculty support standards. Aggregate data across questions 16 through 19, the faculty support questions, for the 25 participating universities scored 27.0% strongly agree as reported in Table 2. This may mean that their institutions' policies and practices had only 27.0% self-reported compliance with the national quality standards for online faculty support. Survey question 16 asked if their institution and its participating faculty have considered issues of workload, compensation, ownership of intellectual property, and the faculty member's

professional evaluation processes. The combined result for strongly agree and mostly agree scored 64.0% and may indicate that over a third of participants may not have institutional self-reported compliance with accrediting agency standards. Results on question 20, related to the provision of a coherent plan for students to complete their program, showed 52.0% strongly agree. Data on the individual questions is reported in Table 1.

In terms of the need for quality policies and practices related to faculty support, research confirmed that teachers continue as the key factor in student achievement (GAO Report to Congressional Committees, 2002). Faculty training and professional development programs continue to see a presence at most universities. However, research demonstrates that these programs showed a primarily voluntary status, demonstrated limited facilities, needed better support, and lacked classes on teaching methods (Irani & Telg, 2002). There existed no research relating faculty support policies and practices to the national standards for online faculty support.

Divergence from national standards in the area of faculty support may indicate that the important faculty issues of workload, compensation, and evaluation have not always seen consideration in the development of online programs. It may indicate that appropriate technical, design, and production support for faculty members has been incomplete or undersupplied. Orientation and training for proficiency in technology uses and strategies for interaction may not find full compliance at the institutional level. Additionally, results show what may indicate a lack of commitment related to administrative, financial, and technical matters concerning participants' online programs.

Student Support

The best practices document (Commission on Institutions of Higher Education, 2007) addresses quality standards for student support in online higher education programs with a number of considerations. Student diversity, both geographically and demographically, exists as a 21st century reality that must find expression in both policy and practice. The requisite skills, curriculum design, time frame, and learning objectives must be made clear to prospective online students. Institutional commitment must encompass administrative, financial, and technical matters. The commitment includes appropriate services and procedures related to technical support, library access, financial aid information, and the provision of a sense of community for off-campus students.

The aggregate data from the survey indicated 42.0% strongly agreed across questions 20 through 23, the student support area, as reported in Table 2. The score may mean that the policies and practices for student support were only 42.0% in self-reported compliance with the new standards of quality. The individual questions revealed a number of new findings. In the provision of a coherent plan for students to complete their program the aggregate response showed 60.0% strongly agree. A score of 40.0% on question 21 may indicate deficiencies in policies and procedures related to admissions and retention. A score of 36.0% on question 22 may indicate that appropriate services to students may remain understaffed or unavailable. A score of 40.0% strongly agree on question 23 may indicate a lack of community as an important component to student success.

None of this data has been reported to date in the extant literature. Research related to other aspects of student support has been reported in a number of the 32

journals reviewed for this study. Malinski (2004) researched virtual learning environments, the virtual seminar, and the E-Learning Plan of Canada's Athabasca University. Each of these online learning environments required differing kinds of support for online students. One study of reusable learning objects emphasized their benefits to both teachers and students (Downes, 2001). The benefits included sustainable and targeted support for student learning. Daley (2001) studied the variables involved in the way learners acquire, integrate, and use knowledge. The study found student perceptions, specific learning tasks, fellow-students, and facilitators provide various kinds of support to their students. Researchers examined the correlations between student perceptions and learning (Drennan, Kennedy, & Pisarski, 2005; Tricker, 2001). Rovai and Barnum (2003) found that course design, pedagogy, student characteristics, and the technologies employed continue as variables in student learning. Student concerns and support remain integral to all of these variables.

Although each of the studies involved different aspects of student support, none of them dealt directly with the key elements defined by the quality standards document for student support. Only a few addressed aspects marginally related to it. The current exploratory study provides data that address the missing research.

Evaluation and Assessment

Another important area of missing research relates to online evaluation and assessment. The national standards for evaluation and assessment of online programs include matching student performance to intended learning outcomes. The standards require firm identification to insure integrity of student work and the protection of personal information. The evaluation of overall program effectiveness through multiple

measures and continual self-evaluation for program improvement find inclusion in the standards. Finally, the standards require placement of online program evaluation in the context of all academic program evaluation.

The research reviewed in the institutional activity area of online evaluation and assessment revealed a number of findings, none of which directly addressed the key areas defined in the standards document. The survey used in the exploratory study addressed all of these factors and helps supply missing research data as it relates to the 25 participating Doctoral/Research-Extensive Universities.

Evaluation and assessment questions find representation in numbers 24 through 29 on the survey and on the results listed in both Table 1 and Table 2. Question 26 on assuring the security of personal information found the highest degree of self-reported compliance with accrediting institution standards for evaluation and assessment with 60.0% strongly agree. The next highest score, at 44.0%, concerned the question of firm identification and integrity of student work when examinations were employed. Two of the lowest scores related to program self-evaluation at 28.0% and policies and practices to determine overall program effectiveness at 20.0%. Self-reported non compliance with accrediting agency standards on question 24, which scored 16.0%, may indicate that documented assessment of student achievement is inadequate. It may also mean that there is less than complete assurance of the integrity of student work when using examinations. Question 28 on continual self-evaluation scored 52.0% when strongly agree and mostly agree percentages were combined. As a final note, the aggregate frequency of response score for strongly agree across all five areas of online institutional activity for the 25 participating universities had a total of 40.7%, as reported in the last row of Table 2.

There were also a number of significant findings when the responses to somewhat disagree, mostly disagree, and strongly disagree were combined. This grouping indicates the lowest levels of self-reported compliance with accrediting agency quality standards. Four questions in the institutional context and commitment area were of note. Three of these had combined scores of 16%. One of these was question 3 on whether budgets and policy statements reflect a commitment to students. Another was question 5 on whether there was a clear, well-understood process by which their program was developed, authorized, and implemented. The third question scoring 16%, number 6, inquired into whether their policies judge courses and programs on learning outcomes and resources towards achievement rather than modes of delivery. Question 4 scored 12%. It dealt with the adequacy of technical and plant facilities as well as appropriate staffing and technical assistance to support their electronically offered programs.

The student support area revealed three of the four question with significant frequency of response scores when somewhat disagree, mostly disagree, and strongly disagree were combined. Question 21 addressed whether there were policies and procedures in place to implement and evaluate important components of online admissions and retention. The combined score was 20%. This equates to five universities in the sample that somewhat, mostly, or strongly disagree that these policies and procedures were in place. The two other questions of note each scored 12%. Question 22 inquired into appropriate services for online students and question 23 queried whether a sense of community was recognized as important to students.

Finally, in the evaluation and assessment area, five of the six questions had significant frequency of response scores when somewhat disagree, mostly disagree, and

strongly disagree were combined. Question 24 inquired into whether there was documented assessment of student achievement at the end of each online course by comparing student performance to intended learning outcomes. It scored 12%. When asked if firm student identification was in place to assure the integrity of student work when examinations are employed, question 25, the score was 8%. Question 27 asked if program effectiveness is determined by matching learning with outcomes, meeting student intentions, student access and retention, student communication skills, appropriate use of resources, cost effectiveness, and faculty satisfaction. The combined score was 16%. Question 29 also scored 16%. It dealt with the institutional evaluation of electronically offered programs in the context of the regular evaluation of all academic programs.

Perhaps most significant was the combined score on question 28 at 24%. This question inquired into whether their institution conducted continual self-evaluation toward online program improvement, for effective uses of technology, student achievement of intended outcomes, improved retention rates, effective use of resources, and demonstrated improvements in services. This is a key area of evaluation and assessment for online education and indicates a significant level of self-reported non-compliance with agency standards. The high self-reported non compliance scores in each of these institutional activity areas are of concern and, while providing new data, many questions related to understanding the reasons for the scores remain open for further study.

The extant research examined a range of policies and practices related to U.S. higher education online programs. None dealt directly with the foundational elements of

quality defined by the eight regional accrediting agencies for U.S. higher education. Only a few dealt with these matters individually in specific contexts. The exploratory study adds significant new data on the current state of U.S. online higher education policies and practices in the key areas defined by the national quality standards document.

Implications for Research and Practice

The existing literature represents a wide range of studies examining individual online policies and practices in online higher education. None of the research, however, addressed specifically the comprehensive sets of policies and practices for quality defined by the eight regional accrediting agencies for U.S. higher education. The missing research has begun to be addressed in the current exploratory study. The evidence-based data from 25 U.S. Doctoral/Research-Extensive universities address the specific policies and practices defined by the accrediting agencies in the five key areas of online institutional activity. The crucial areas of data include new findings on institutional context and commitment, curriculum and instruction, faculty support, student support, and evaluation and assessment policies and practices. The data provide guidance for both policy construction and evidence-based practice in U.S. university online programs.

The survey results demonstrate the need for both better compliance with, and further research into, the policies and practices of U.S. higher education institutions in each of the five areas of online activity. The question remains unanswered as to why the data shows divergence as it does from full self-reported compliance with accrediting agency quality standards. New research may lead U.S. colleges and universities to both awareness of the accreditation agency standards and the benefits that may arise from institutional compliance in the key areas. The policy and practice adjustments that may

require compliance appear in the data in the areas where self-reporting scores are less than 100% on the Likert-scale.

Self-reported divergence from 100% in the area of institutional context and commitment to online programs may indicate deficiencies in awareness of accreditation requirements and compliance with the requirements. The data may speak to a lack of commitment to online students in terms of budgets and policy statements or in technical and physical plant facilities support. The data suggest self-reported non-compliance in the development and implementation of online programs or in the prioritization of learning outcomes. The data further suggest divergence in the consistency and coherence of technical framework changes, in technical support for both software and delivery systems, or in the selection of appropriate technologies and curriculum. Data also suggest some degree of self-reported non compliance in matters related to legal and regulatory requirements. All of these issues require further research and point to possible areas of concern for institutional policy and practice.

Divergence from accrediting agency standards in the area of online curriculum and instruction represents another key area where the new data may guide policy and practice. The data also define areas for further research where no relevant literature exists. Divergence, or self-reported non compliance, suggests online programs may not assure levels of learning outcomes appropriate to the certificate or degree awarded. Deviation from full self-reported compliance may mean that those responsible for program curricula and oversight are not academically qualified or may not participate fully. It may also suggest a lack of qualified persons in charge of program presentation, management, or assessment. Self-reported non compliance may point to deficiencies in

providing a coherent plan for students to access their courses or in notifying students of requirements not officially a part of the online offering. Divergence further suggests that appropriate interaction, either synchronous or asynchronous, may not be reflected in the design of courses, or in the technical facilities and services provided.

The current study informs institutional policy and practice by defining where institutions may align or fail in important areas of online curriculum and instruction. Further research in each of the defined areas of policy and evidence-based practice may aid our understanding of both the reasons for the divergences and the processes involved.

The survey data also provide guidance for policy and practice in key areas related to online faculty support by first drawing attention to the quality standards and then revealing areas of potential non compliance. New research also has much to offer towards our understanding of policy and practice divergence from the national online standards in the area of faculty support. Such divergence, as reported in Tables 1 and 2, may indicate that the important faculty issues of workload, compensation, and evaluation may not always find adequate consideration in the development of online programs. Self-reported non compliance may further indicate that appropriate technical, design, and production support for faculty members has deficiencies. And self-reported non-compliance may suggest deficiencies in teachers' orientation and training for technology uses and strategies.

In addition to informing policy and practice on the critical aspects of quality in student support, the exploratory study also points out a lack of representation of the key issues in the literature. Research findings related to the national quality standards in the area of student support and data that facilitate our understanding of institutional

divergence from it are missing. Further research into online student support may help the academic community better understand the nature and causes of the various divergences. New research may help institutions and their educators better understand why compliance is essential and how to enact the standards in both policy and practice. Compliance with accrediting agency online standards may also help lead to the changes in policy and practice that accredited institutions know benefit students, institutions, and the faculty members that play key roles in student support, learning, and success.

Finally, in the area of online evaluation and assessment, there remain many gaps in the extant literature. New research may help to explain self-reported non-compliance with the national standards in issues of security related to personal information when assessments and evaluations are involved. Further research may help explain self-reported non-compliance in the areas of program effectiveness, appropriate uses of learning resources, and student access. Divergence showing unresolved issues related to effective uses of technology to improve pedagogy and student achievement of intended outcomes may find clarification in further research. Further studies may explain why divergence from standards in the evaluation of electronically offered programs does not always take place in the context of the regular evaluation of all academic programs.

Future research in each of these areas, and the evidence-based policies and practices that develop on the basis of the new research, may help lead institutions and their stakeholders into full compliance with the national online quality standards. Such compliance helps assure both the quality and continuation of the online programs and the quality of the teaching and learning that result from the implementation of accredited policies and practices. Knowing more about the online policies and practices of U.S.

Doctoral/Research-Extensive Universities provides a foundation for further research to explore why and how universities made the choices they did to develop the policies and practices for online education the way that they did. What have the data from the exploratory study revealed for building such a research foundation?

The data revealed only nine questions with responses over 50.0% strongly agree. Institutions scored 64.0 % self-reported compliance on both awareness of and alignment with accreditation requirements. The institutions scored 58.3% self-reported compliance with regards to legal and regulatory requirements for their online programs. Assurance of collegiate level learning outcomes scored 56.0%, involvement of qualified persons making key decisions scored 72.0%, and the provision of a coherent plan for students to complete their program scored 60.0%. In program design for appropriate interaction between the instructor and students and among students, data revealed a 52.0% self-reported compliance with national online standards. The last data scoring over 50.0% dealt with security of personal information. The aggregate data scored 60.0%. As these scores are the high points in the data, there may exist some cause for concern, further research, and appropriate action to bring U.S. higher education online policies and practices into much closer self-reported compliance with the national quality standards.

Another nine questions revealed strongly agree responses under 30.0%. Asked if the institution's budgets and policies reflect its commitment to its online students, the data showed 28.0%. On the question of judging courses and programs on learning outcomes, data showed a 20.0% self-reported compliance with accrediting agency standards. When asked if students were the primary consideration in consortial agreements, the data showed 28.0% in self-reported compliance. For the provision of

ongoing technical, design, and production support for faculty members, the data indicated 28.0% self-reported compliance, as did the question of providing adequate orientation and training for proficient use of technologies. With regards to the question of providing orientation and training for those working directly with students, data revealed only 20.0% self-reported compliance with online quality standards. The practice of documenting student achievement by comparing student performance to intended learning outcomes scored 16.0% in the data. Finally, only 20.0% of the 25 participating universities had determined overall program effectiveness by the metrics established in the accrediting agencies' online quality standards. The potentials exist in each of these areas for further research and the enhancement of both policies and practices for U.S. colleges and universities.

Data on self-reported compliance with national online quality standards indicated divergence well below the midway point for each of these policies and practices. In summary, the data shows the areas in greatest self-reported non compliance with national online standards related to: 1) budgets and policies, 2) judging courses and programs on learning outcomes, 3) technical, design, and production support for faculty members, 4) orientation and training for both faculty and students, and 5) ascertaining program effectiveness. The data may demonstrate a critical need for additional development and realignment of these institutional online policies and practices with the national quality standards. Further research and its implications for future practice continue as key considerations arising from the exploratory study.

A number of questions arise in these regards. What influences help shape institutional decisions? What elements guide practice? How does funding affect policy

considerations? What administrative levels made decisions about online programs? Do faculty members find inclusion in decision-making? Do students find representation in decisions and outcomes? How does federal or state policy influence decisions? Have online programs developed from existing infrastructure or have new course management systems and infrastructure seen implementation? Where in the process of strategic planning have current online policies and practices developed? Has planning seen full implementation or been left somewhere in the process?

Future research has still to examine the online policies and practices of a wider range of Carnegie designated universities, colleges, and community colleges through the application of instruments like the online survey developed for the current study. Qualitative and mixed methods research may explore in more detail the five areas of online institutional activity, i.e., institutional context and commitment, curriculum and instruction, faculty support, student support, and evaluation and assessment. Research has yet to address what the institutions can do to implement the online standards at the institutional, departmental, and faculty levels. The question of the new generations of faculty and how they are prepared for, responding to, and rewarded for their online activity remains to be investigated. Longitudinal research is also needed in each of these critical areas. Research may also question the U.S. standards this study has been based upon and compare them to the online standards used in the United Kingdom, Australia, Canada, and elsewhere. Finally, future research may inquire into what questions still need to be asked.

Limitations

Limitations of the exploratory study include non-generalizability of results, having only studied 25 U.S. Doctoral/Research-Extensive Universities. Universities with other Carnegie designations may have circumstances and strategic plans and budgets that make generalizability unsuitable. Moreover, not all of the Doctoral/Research-Extensive Universities examined had fully online degree programs making generalizability difficult. Also, not all of the universities had institutional-wide governance of their online programs, leaving decisions to the individual schools and colleges. The results, therefore, aggregate the well developed, fully budgeted, and well-governed online programs with the emerging or less well supported online programs. Additionally, while quite a number of actual online policies and practices had representation in the survey, data offered no insight into why the participating universities made the decisions they did regarding either policies or practices in any of the five areas of online institutional activity. The qualifications and experience of the individual university Chief Information Officers are other factors that may influence the self-reporting. It may be that the Chief Academic Officer (CAO) of an institution is the person most qualified to address a number of the survey questions. These matters are unaccounted for in the data.

Another limitation may be seen in the fact that higher education quality standards, either online or campus-based, are necessarily a work in progress (Commission on Institutions of Higher Education, 2007). As new research guides both policy and practice, standards continue to modify, adapt, and grow accordingly. Technologies go through constant upgrading and new technologies compete for information, communication, and education purposes. The policies that direct technology use and the practices that utilize

their advances also modify corresponding to the standards used to determine quality in U.S. online higher education programs. As national quality standards change, guided by new evidence-based practice, the direction of higher education policies and practices for online distance learning may again confront challenges to change in compliance with the new standards. Research, in turn, may once again explore the policies and practices related to online education in U.S. colleges and universities in light of the changes.

APPENDIX A

BEST PRACTICES FOR ELECTRONICALLY OFFERED DEGREE AND CERTIFICATE PROGRAMS

Commission on Institutions of Higher Education

Best Practices for Electronically Offered Degree and Certificate Programs

Introduction

These Best Practices have been developed by the eight regional accrediting commissions in response to the emergence of technologically mediated instruction offered at a distance as an important component of higher education. Expressing in detail what currently constitutes best practice in distance education they seek to address concerns that regional accreditation standards are not relevant to the new distributed learning environments, especially when those environments are experienced by off-campus students. The Best Practices, however, are not new evaluative criteria. Rather they explicate how the well-established essentials of institutional quality found in regional accreditation standards are applicable to the emergent forms of learning; much of the detail of their content would find application any learning environment. Taken together those essentials reflect the values which the regional commissions foster among their affiliated colleges and universities:

that education is best experienced within a community of learning where competent professionals are actively and cooperatively involved with creating, providing, and improving the instructional program;

that learning is dynamic and interactive, regardless of the setting in which it occurs;

that instructional programs leading to degrees having integrity are organized around substantive and coherent curricula which define expected learning outcomes;

that institutions accept the obligation to address student needs related to, and to provide the resources necessary for, their academic success;

that institutions are responsible for the education provided in their name;

that institutions undertake the assessment and improvement of their quality, giving particular emphasis to student learning;

that institutions voluntarily subject themselves to peer review.

These Best Practices are meant to assist institutions in planning distance education activities and to provide a self-assessment framework for those already involved. For the regional accrediting associations they constitute a common understanding of those elements which reflect quality distance education programming. As such they are intended to inform and facilitate the evaluation policies and processes of each region.

Developed to reflect current best practice in electronically offered programming, these Best Practices were initially drafted by the Western Cooperative for Educational Telecommunications (www.wiche.edu/telecom/), an organization recognized for its substantial expertise in this field. Given the rapid pace of change in distance education,

these Best Practices are necessarily a work in progress. They will be subject to periodic review by the regionals, individually and collectively, who welcome comments and suggestions for their improvement.

Overview to the Best Practices

These Best Practices are divided into five separate components, each of which addresses a particular area of institutional activity relevant to distance education. They are:

1. Institutional Context and Commitment
2. Curriculum and Instruction
3. Faculty Support
4. Student Support
5. Evaluation and Assessment.

Each component begins with a general statement followed by individual numbered paragraphs addressing specific matters describing those elements essential to quality distance education programming. These in turn are followed by protocols in the form of questions designed to assist in determining the existence of those elements when reviewing either internally or externally distance education activities.

* Commission on Higher Education, Middle States Association of Colleges and Schools; Commission on Institutions of Higher Education, New England Association of Schools and Colleges; Commission on Technical and Career Institutions, New England Association of Schools and Colleges; Commission on Institutions of Higher Education, North Central Association of Colleges and Schools; Commission on Colleges, The Northwest Association of Schools and Colleges; Commission on Colleges, Southern Association of Colleges and Schools; Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges; Accrediting Commission for Senior Colleges and Universities, Western Association of Schools and Colleges.

The Best Practices and Protocols

1. Institutional Context and Commitment

Electronically offered programs both support and extend the roles of educational institutions. Increasingly they are integral to academic organization, with growing implications for institutional infrastructure.

1a. In its content, purposes, organization, and enrollment history if applicable, the program is consistent with the institution's role and mission.

- What is the evidence that the program is consistent with the role and mission of the institution including its goals with regard to student access?
- Is the institution fulfilling its stated role as it offers the program to students at a distance, or is the role being changed?

1b. It is recognized that a healthy institution's purposes change over time. The institution is aware of accreditation requirements and complies with them. Each accrediting commission has established definitions of what activities constitute a substantive change that will trigger prior review and approval processes. The appropriate accreditation commission should be notified and consulted whether an electronically offered program represents a major change. The offering of distributed programs can affect the institution's educational goals, intended student population, curriculum, modes or venue of instruction, and can thus have an impact on both the institution and its accreditation status.

- Does the program represent a change to the institution's stated mission and objectives?
- Does the program take the college or university beyond its "institutional boundaries," e.g., students to be served, geographic service area, locus of instruction, curriculum to be offered, or comparable formally stated definitions of institutional purpose?
- Is the change truly significant?

1c. The institution's budgets and policy statements reflect its commitment to the students for whom its electronically offered programs are designed.

- How is the student assured that the program will be sustained long enough for the cohort to complete it?
- How are electronically offered programs included in the institution's overall budget structure?
- What are the institution's policies concerning the establishment, organization, funding, and management of electronically offered programs? Do they reflect ongoing commitment to such programs? (See also item 1e below.)

1d. The institution assures adequacy of technical and physical plant facilities including appropriate staffing and technical assistance, to support its electronically offered programs.

- Do technical and physical plant facilities accommodate the curricular commitments reviewed below, e.g., instructor and student interaction (2e), and appropriateness to the curriculum (2a)?
- Whether facilities are provided directly by the institution or through contractual arrangements, what are the provisions for reliability, privacy, safety and security?
- Does the institution's budget plan provide for appropriate updating of the technologies employed?
- Is the staffing structure appropriate (and fully qualified) to support the programs now operational and envisioned in the near term?

1e. The internal organizational structure which enables the development, coordination, support, and oversight of electronically offered programs will vary from institution to institution. Ordinarily, however, this will include capability to:

Facilitate the associated instructional and technical support relationships.

Provide (or draw upon) the required information technologies and related support services.

Develop and implement a marketing plan that takes into account the target student population, the technologies available, and the factors required to meet institutional goals.

Provide training and support to participating instructors and students.

Assure compliance with copyright law.

Contract for products and outsourced services.

Assess and assign priorities to potential future projects.

Assure that electronically offered programs and courses meet institution-wide standards, both to provide consistent quality and to provide a coherent framework for students who may enroll in both electronically offered and traditional on-campus courses.

Maintain appropriate academic oversight.

Maintain consistency with the institution's academic planning and oversight functions, to assure congruence with the institution's mission and allocation of required resources.

Assure the integrity of student work and faculty instruction.

Organizational structure varies greatly, but it is fundamental to the success of an institution's programs. The points above can be evaluated by variations of the following procedure and inquiries:

- Is there a clear, well-understood process by which an electronically offered program evolves from conception to administrative authorization to implementation? How is the need for the program determined? How is it assigned a priority among the other potential programs? Has the development of the program incorporated appropriate internal consultation and integration with existing planning efforts?
- Track the history of a representative project from idea through implementation, noting the links among the participants including those responsible for curriculum, those responsible for deciding to offer the program electronically, those responsible for program/course design, those responsible for the technologies applied, those responsible for faculty and student support, those responsible for marketing, those responsible for legal issues, those responsible for budgeting, those responsible for administrative and student services, and those responsible for program evaluation. Does this review reveal a coherent set of relationships?
- In the institution's organizational documentation, is there a clear and integral relationship between those responsible for electronically offered programs and the mainstream academic structure?
- How is the organizational structure reflected in the institution's overall budget?
- How are the integrity, reliability, and security of outsourced services assured?
- Are training and technical support programs considered adequate by those for whom they are intended?
- What are the policies and procedures concerning compliance with copyright law?

- How does program evaluation relate to this organizational and decision-making structure?

1f. In its articulation and transfer policies the institution judges courses and programs on their learning outcomes, and the resources brought to bear for their achievement, not on modes of delivery.

- What are the institution's policies concerning articulation and transfer? What are decisions regarding transfer of academic credit based upon?
- Is the institutions internally consistent in its handling of articulation and transfer issues, or do different divisions have different policies and procedures?

1g. The institution strives to assure a consistent and coherent technical framework for students and faculty. When a change in technologies is necessary, it is introduced in a way that minimizes the impact on students and faculty.

- When a student or instructor proceeds from one course or program to another, is it necessary to learn another software program or set of technical procedures?
- When new software or systems are adopted, what programs/processes are used to acquaint instructors and students with them?

1h. The institution provides students with reasonable technical support for each educational technology hardware, software, and delivery system required in a program.

- Is a help desk function realistically available to students during hours when it is likely to be needed?
- Is help available for all hardware, software, and delivery systems specified by the institution as required for the program?
- Does the help desk involve person-to-person contact for the student? By what means, e.g., email, phone, fax?
- Is there a well-designed FAQ (Frequently Asked Questions) service, online and/or by phone menu or on-demand fax?

1i. The selection of technologies is based on appropriateness for the students and the curriculum. It is recognized that availability, cost, and other issues are often involved, but program documentation should include specific consideration of the match between technology and program.

- How were the technologies chosen for this institution's programs?
- Are the technologies judged to be appropriate (or inappropriate) to the program(s) in which they are used?
- Are the intended students likely to find their technology costs reasonable?
- What provisions have been made to assure a robust and secure technical infrastructure, providing maximum reliability for students and faculty?
- Given the rapid pace of change in modern information technology, what policies or procedures are in place to keep the infrastructure reasonably up-to-date?

1j. The institution seeks to understand the legal and regulatory requirements of the jurisdictions in which it operates, e.g., requirements for service to those with disabilities,

copyright law, state and national requirements for institutions offering educational programs, international restrictions such as export of sensitive information or technologies, etc.

- Does institutional documentation indicate an awareness of these requirements and that it has made an appropriate response to them?

2. Curriculum and Instruction

Methods change, but standards of quality endure. The important issues are not technical but curriculum-driven and pedagogical. Decisions about such matters are made by qualified professionals and focus on learning outcomes for an increasingly diverse student population

2a. As with all curriculum development and review, the institution assures that each program of study results in collegiate level learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded by the institution, that the electronically offered degree or certificate program is coherent and complete, and that such programs leading to undergraduate degrees include general education requirements.

- What process resulted in the decision to offer the program?
- By what process was the program developed? Were academically qualified persons responsible for curricular decisions?
- How were "learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded" established? Does the program design involve the demonstration of such skills as analysis, comprehension, communication, and effective research?
- Is the program "coherent and complete?"
- Are related instructional materials appropriate and readily accessible to students?

2b. Academically qualified persons participate fully in the decisions concerning program curricula and program oversight. It is recognized that traditional faculty roles may be unbundled and/or supplemented as electronically offered programs are developed and presented, but the substance of the program, including its presentation, management, and assessment are the responsibility of people with appropriate academic qualifications.

- What were the academic qualifications of those responsible for curricular decisions, assessment, and program oversight?
- What are the academic qualifications of those presenting and managing the program?
- If the principal instructor is assisted by tutors or student mentors, what are their qualifications?
- Are these qualifications considered appropriate to the responsibilities of these persons?

2c. In designing an electronically offered degree or certificate program, the institution provides a coherent plan for the student to access all courses necessary to complete the program, or clearly notifies students of requirements not included in the electronic offering. Hybrid programs or courses, mixing electronic and on-campus elements, are designed to assure that all students have access to appropriate services. (See also 2d below, concerning program elements from consortia or contract services.)

- How are students notified of program requirements?
- If the institution relies on other providers to offer program-related courses, what is the process by which students learn of these courses?
- Is the total program realistically available to students for whom it is intended? For example, is the chosen technology likely to be accessible by the target student population? Can target students meet the parameters of program scheduling?

2d. Although important elements of a program may be supplied by consortial partners or outsourced to other organizations, including contractors who may not be accredited, the responsibility for performance remains with the institution awarding the degree or certificate. It is the institution in which the student is enrolled, not its suppliers or partners, that has a contract with the student. Therefore, the criteria for selecting consortial partners and contractors, and the means to monitor and evaluate their work, are important aspects of the program plan. In considering consortial agreements, attention is given to issues such as assuring that enhancing service to students is a primary consideration and that incentives do not compromise the integrity of the institution or of the educational program. Consideration is also given to the effect of administrative arrangements and cost-sharing on an institution's decision-making regarding curriculum.

Current examples of consortial and contractual relationships include:

Faculty qualifications and support.

Course material:

- Courses or course elements acquired or licensed from other institutions.
- Courses or course elements provided by partner institutions in a consortium.
- Curricular elements from recognized industry sources, e.g., Microsoft or Novell certification programs.
- Commercially produced course materials ranging from textbooks to packaged courses or course elements.

Course management and delivery:

- WebCT, Blackboard, College, etc.

Library-related services:

- Remote access to library services, resources, and policies.
- Provision of library resources and services, e.g., online reference services, document delivery, print resources, etc.

Bookstore services.

Services providing information to students concerning the institution and its programs and courses.

Technical services:

– Server capacity.

– Technical support services, including help desk services for students and faculty.

Administrative services:

– Registration, student records, etc.

Services related to advising, counseling, or tutoring.

Online payment arrangements.

Student privacy considerations.

Evaluation of contract services and consortial arrangements requires a review of pertinent formal agreements. Note, for example:

- Are performance expectations defined in contracts and agreements? Are conditions for contract termination defined?
- Are there adequate quality control and curriculum oversight provisions in agreements concerning courseware?
- Are there appropriate system reliability and emergency backup guarantees in agreements concerning technology services?
- What are the provisions for protection of confidentiality and privacy in services involving personal information?
- What are the assurances concerning qualifications and training of persons involved in contact with students? These services may range from help desk to tutoring or counseling.
- Consortial agreements introduce additional elements to be evaluated:
  - How are curriculum-related decisions made by the consortium, noting the requirement that "Academically qualified persons participate fully in the decisions regarding program curricula and program oversight?"
  - Is the institution fully engaged in the consortial process, recognizing the decision-making responsibilities of shared ownership?
  - What are the financial arrangements among the parties to the consortial agreement? What are the implications of these arrangements for institutional participation and management?
  - What entity awards the certificates and degrees resulting from the consortial program?
  - What articulation and transfer arrangements are applicable to courses offered via the consortium? Did these arrangements involve specific curricular decisions by the academic structures of the participating institutions? Were they prescribed in a state or system decision?
  - To what extent are the administrative and student services arrangements of the consortium focused on the practical requirements of the student?

2e. The importance of appropriate interaction (synchronous or asynchronous) between instructor and students and among students is reflected in the design of the program and its courses, and in the technical facilities and services provided.

- What provisions for instructor-student and student-student interaction are included in the program/course design and the course syllabus? How is appropriate interaction assured?
- Is instructor response to student assignments timely? Does it appear to be appropriately responsive?
- What technologies are used for program interaction (e.g., email, telephone office hours, phone conferences, voicemail, fax, chat rooms, Web-based discussions, computer conferences and threaded discussions, etc.)?
- How successful is the program's interactive component, as indicated by student and instructor surveys, comments, or other measures?

3. Faculty Support

As indicated above, faculty roles are becoming increasingly diverse and reorganized. For example, the same person may not perform both the tasks of course development and direct instruction to students. Regardless of who performs which of these tasks, important issues are involved.

3a. In the development of an electronically offered program, the institution and its participating faculty have a considered issues of workload, compensation, ownership of intellectual property resulting from the program, and the implications of program participation for the faculty member's professional evaluation processes. This mutual understanding is based on policies and agreements adopted by the parties.

- Have decisions regarding these matters been made in accordance with institutional or system processes customarily used to address comparable issues?

3b. The institution provides an ongoing program of appropriate technical, design, and production support for participating faculty members.

- What support services are available to those responsible for preparing courses or programs to be offered electronically? What support services are available to those faculty members responsible for working directly with students?
- Do participating faculty members consider these services to be appropriate and adequate?
- Does the staff include qualified instructional designers? If so, do they have an appropriate role in program and course development?

3c. The institution provides to those responsible for program development the orientation and training to help them become proficient in the uses of the program's technologies, including potential changes in course design and management.

- What orientation and training programs are available? Are there opportunities for ongoing professional development?
- Is adequate attention paid to pedagogical changes made possible and desirable when information technologies are employed?
- Given the staff available to support electronically offered programs, are the potential changes in course design and management realistically feasible?

- Do those involved consider these orientation and training programs to be appropriate and adequate?

3d. The institution provides to those responsible for working directly with students the orientation and training to help them become proficient in the uses of the technologies for these purposes, including strategies for effective interaction.

- What orientation and training programs are available? Are there opportunities for ongoing professional development? Do those involved consider these orientation and training programs to be appropriate and adequate?

4. Student Support

Colleges and universities have learned that the twenty-first century student is different, both demographically and geographically, from students of previous generations. These differences affect everything from admissions policy to library services. Reaching these students, and serving them appropriately, are major challenges to today's institutions.

4a. The institution has a commitment— administrative, financial, and technical— to continuation of the program for a period sufficient to enable all admitted students to complete a degree or certificate in a publicized timeframe.

- Do course and program schedules reflect an appropriate commitment to the program's students?
- Do budget, faculty, and facilities assignments support that commitment?

4b. Prior to admitting a student to the program, the institution:

Ascertains by a review of pertinent records and/or personal review that the student is qualified by prior education or equivalent experience to be admitted to that program, including in the case of international students, English language skills.

Informs the prospective student concerning required access to technologies used in the program.

Informs the prospective student concerning technical competence required of students in the program.

Informs the prospective student concerning estimated or average program costs (including costs of information access) and associated payment and refund policies.

Informs the prospective student concerning curriculum design and the time frame in which courses are offered, and assists the student in understanding the nature of the learning objectives.

Informs the prospective student of library and other learning services available to support learning and the skills necessary to access them.

Informs the prospective student concerning the full array of other support services available from the institution.

Informs the prospective student about arrangements for interaction with the faculty and fellow students.

Assists the prospective student in understanding independent learning expectations as well as the nature and potential challenges of learning in the program's technology-based environment.

Informs the prospective student about the estimated time for program completion.

To evaluate this important component of admission and retention, it is appropriate to pursue the following:

- How do potential students learn about the electronically offered program? Is the information provided sufficient, fair, and accurate?
- How are students informed about technology requirements and required technical competence?
- How are students informed about costs and administrative arrangements?
- What information and/or advice do students receive about the nature of learning and the personal discipline required in an anytime/anywhere environment?
- What criteria are used to determine the student's eligibility for admission to the program?
- What steps are taken to retain students in the program?
- What is the history of student retention in this program?

4c. The institution recognizes that appropriate services must be available for students of electronically offered programs, using the working assumption that these students will not be physically present on campus. With variations for specific situations and programs, these services, which are possibly coordinated, may include:

Accurate and timely information about the institution, its programs, courses, costs, and related policies and requirements.

Pre-registration advising.

Application for admission.

Placement testing.

Enrollment/registration in programs and courses.

Financial aid, including information about policies and limitations, information about available scholarships, processing of applications, and administration of financial aid and scholarship awards.

Secure payment arrangements.

Academic advising.

Timely intervention regarding student progress.

Tutoring.

Career counseling and placement.

Academic progress information, such as degree completion audits.

Library resources appropriate to the program, including, reference and research assistance; remote access to data bases, online journals and full-text resources; document delivery services; library user and information literacy instruction, reserve materials; and institutional agreements with local libraries.

Training in information literacy including research techniques.

Bookstore services: ordering, secure payment, and prompt delivery of books, course packs, course-related supplies and materials, and institutional memorabilia.

Ongoing technical support, preferably offered during evenings and weekends as well as normal institutional working hours.

Referrals for student learning differences, physical challenges, and personal counseling.

Access to grievance procedures.

Within the context of the program, the requirements of the program's students, and the type of institution, review each of the services and procedures listed above from the standpoint of a student for whom access to the campus is not feasible.

- Are the institution's policies and procedures appropriate and adequate from the standpoint of the distant student?
- If not all appropriate resources are routinely available at a distance, what arrangements has the institution made to provide them to distant students?
- Are these services perceived by distant students to be adequate and appropriate?
- Are these services perceived to be adequate and appropriate by those responsible for providing them? What modifications or improvements are planned?

4d. The institution recognizes that a sense of community is important to the success of many students, and that an ongoing, long-term relationship is beneficial to both student and institution. The design and administration of the program takes this factor into account as appropriate, through such actions as encouraging study groups, providing student directories (with the permission of those listed), including off-campus students in institutional publications and events, including these students in definitions of the academic community through such mechanisms as student government representation, invitations to campus events including graduation ceremonies, and similar strategies of inclusion.

- What strategies and practices are implemented by this institution to involve distant students as part of an academic community? By their statements and actions, do administrators and participating faculty members communicate a belief that a sense of academic community is important?
- How are the learning needs of students enrolled in electronically offered programs identified, addresses, and linked to educational objectives and learning outcomes, particularly within the context of the institution's definition of itself as a learning community.
- Do representative students feel that they are part of a community, or that they are entirely on their own?

5. Evaluation and Assessment

Both the assessment of student achievement and evaluation of the overall program take on added importance as new techniques evolve. For example, in asynchronous programs the element of seat time is essentially removed from the equation. For these reasons, the institution conducts sustained, evidence-based and participatory inquiry as to whether distance learning programs are achieving objectives. The results of such inquiry are used to guide curriculum design and delivery, pedagogy, and educational processes, and may

affect future policy and budgets perhaps have implications for the institution's roles and mission.

5a. As a component of the institution's overall assessment activities, documented assessment of student achievement is conducted in each course and at the completion of the program, by comparing student performance to the intended learning outcomes.

- How does the institution review the effectiveness of its distance education programs to assure alignment with institutional priorities and educational objectives?
- How does evaluated student performance compare to intended learning outcomes?
- How is student performance evaluated?
- How are assessment activities related to distance learning integrated into the institution's broader program of assessment?

5b. When examinations are employed (paper, online, demonstrations of competency, etc.), they take place in circumstances that include firm student identification. The institution otherwise seeks to assure the integrity of student work.

- If proctoring is used, what are the procedures for selecting proctors, establishing student identity, assuring security of test instruments, administering the examinations, and assuring secure and prompt evaluation?
- If other methods are used to identify those who take the examination, how is identification firmly established? How are the conditions of the examination (security, time limits, etc.) controlled?
- Does the institution have in place effective policies and procedures to assure the integrity of student work?

5c. Documented procedures assure that security of personal information is protected in the conduct of assessments and evaluations and in the dissemination of results.

- What procedures assure the security of personal information?
- How is personal information protected while providing appropriate dissemination of the evaluation results?

5d. Overall program effectiveness is determined by such measures as:

The extent to which student learning matches intended outcomes, including for degree programs both the goals of general education and the objectives of the major.

The extent to which student intent is met.

Student retention rates, including variations over time.

Student satisfaction, as measured by regular surveys.

Faculty satisfaction, as measured by regular surveys and by formal and informal peer review processes.

The extent to which access is provided to students not previously served.

Measures of the extent to which library and learning resources are used appropriately by the program's students.

Measures of student competence in fundamental skills such as communication, comprehension, and analysis.

Cost effectiveness of the program to its students, as compared to campus-based alternatives.

Although not all of these measures will be applicable equally at every institution, appropriate evidence is generally available through:

- Evaluations of student performance (see 5a above).
- Review of student work and archive of student activities, if maintained, in the course of program reviews.
- Results from students' routine end-of-course and -program evaluations.
- Student surveys of overall satisfaction with the experience of electronically offered programs; surveys reflecting student cost trade-offs experienced as they pursued the program.
- Faculty surveys, peer reviews of programs, and discussion groups.
- Documentation concerning access provided to students not previously served, through a combination of enrollment records and student surveys.
- Usage records concerning use of library and learning resources, and instructor assignments that require such usage.
- Assessment of students' fundamental skills in communication, comprehension, and analysis. How have the institution's usual measures of these skills been adapted to assess distant students?
- Documentation of the institution's analyses that relate costs to goals of the program.

5e. The institution conducts a program of continual self-evaluation directed toward program improvement, targeting more effective uses of technology to improve pedagogy, advances in student achievement of intended outcomes, improved retention rates, effective use of resources, and demonstrated improvements in the institution's service to its internal and external constituencies. The program and its results are reflected in the institution's ongoing self-evaluation process and are used to inform the further plans of the institution and those responsible for its academic programs.

- How is the institution's ongoing program of assessment and improvement developed and conducted?
- Does it cover the essential categories of improved learning outcomes, retention, use of resources, and service to core constituencies?
- Does the program appropriately involve academically qualified persons?
- What is the institution's mechanisms for review and revision of existing programs and courses?
- How does program evaluation affect institutional planning?
- What constituencies are actively involved in the ongoing process of planning for improvement?
- Has the process had measurable results to date?

5f. Institutional evaluation of electronically offered programs takes place in the context of the regular evaluation of all academic programs.

- What are the administrative and procedural links between the evaluation of electronically offered programs and the ongoing evaluation of all academic programs?

- How are the respective characteristics of campus-based and electronically offered programs taken into account?

CIHE

Commission on Institutions of Higher Education (2007). Best practices for electronically offered degree and certificate programs. Retrieved February 21, 2007, from http://www.neasc.org/cihe/best_practices_electronically_offered_degree.htm

APPENDIX B

SURVEY: EVIDENCE-BASED PRACTICE IN ONLINE HIGHER EDUCATION

Introduction

This study begins the examination of U.S. university online practices by looking at the current state of online practice in U.S. Doctoral/Research-Extensive Universities related to institutional context and commitment, curriculum and instruction, faculty support, student support, and both evaluation and assessment.

6-Point Likert Scale

Participants are to indicate how closely their perceptions, experiences, and views match the statements for each of the 29 questions on a 6-point rating scale. The number at one end of the scale represents strong agreement with the statement and the number at the other end of the scale represents strong disagreement. There is also the option to answer any question with an N/A. Participants indicate agreement or disagreement with the statements below, on a scale where:

1	2	3	4	5	6	0
strongly agree	mostly agree	somewhat agree	somewhat disagree	mostly disagree	strongly disagree	N/A

Evidence-Based Practice Survey Questions

These evidence-based practice survey questions are divided into five separate components, each of which addresses a particular area of institutional activity relevant to electronic distance education in U.S. colleges and universities.

They are:

1. Institutional context and commitment
2. Curriculum and instruction

3. Faculty support
4. Student support
5. Evaluation and assessment

Name of person completing survey _____

Title of person completing survey _____

University _____

Department _____

Institutional Context and Commitment

1. Our institution is aware of the accreditation requirements for online programs.
2. Our institution complies with the accrediting institution requirements for online programs. If in agreement indicate the name of the accrediting institution:

   _____

3. Our institution's budgets and policy statements reflect its commitment to the students for whom its electronically offered programs are designed.
4. Our institution assures adequacy of technical and physical plant facilities, including appropriate staffing and technical assistance, to support its electronically offered programs
5. There is a clear, well-understood process by which our electronically offered program has developed/is developing from conception to administrative authorization to implementation.
6. In its articulation and transfer policies our institution judges courses and programs on their learning outcomes, and the resources brought to bear for their achievement, not on modes of delivery.

7. Our institution strives to assure a consistent and coherent technical framework for students and faculty that assures that when a change in technologies is necessary it is introduced in a way that minimizes the impact on students and faculty.
8. Our institution provides students with reasonable technical support for each educational technology, hardware, software, and delivery system required in our online program.
9. Our selection of technologies is based on appropriateness for the students and the curriculum recognizing in that consideration the match between technology and program.
10. Our institution seeks to understand the legal and regulatory requirements of the jurisdictions in which it operates, e.g., requirements for service to those with disabilities, copyright law, state and national requirements for institutions offering educational programs, and international restrictions such as export of sensitive information or technologies.

Curriculum and Instruction

11. As with all curriculum development and review, our institution assures that each online program of study results in collegiate level learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded by our institution.
12. Academically qualified persons participate fully in the decisions concerning program curricula and program oversight including its presentation, management, and assessment.
13. In designing an electronically offered degree or certificate program, our institution provides a coherent plan for the student to access all courses necessary

to complete the program, or clearly notifies students of requirements not included in the electronic offering.

14. In considering consortial agreements, attention is given to issues such as assuring that enhancing service to students is a primary consideration and that incentives do not compromise the integrity of our institution or of our educational program.
15. The importance of appropriate interaction (synchronous or asynchronous) between instructor and students and among students is reflected in the design of our program and its courses, and in the technical facilities and services provided.

Faculty Support

16. In the development of an electronically offered program, our institution and its participating faculty have considered issues of workload, compensation, ownership of intellectual property resulting from the program, and the faculty member's professional evaluation processes.
17. Our institution provides an ongoing program of appropriate technical, design, and production support for participating faculty members.
18. Our institution provides to those responsible for program development the orientation and training to help them become proficient in the uses of the program's technologies, including potential changes in course design and management.
19. Our institution provides to those responsible for working directly with students the orientation and training to help them become proficient in the uses of the technologies for these purposes, including strategies for effective interaction.

Student Support

20. Our institution has a commitment— administrative, financial, and technical— to continuation of the program for a period sufficient to enable all admitted students to complete a degree or certificate in a publicized timeframe.
21. Our institution has policies and procedures in place to implement and evaluate the important components of online admissions and retention.
22. Our institution recognizes that appropriate services must be available for students of electronically offered programs, using the working assumption that these students will not be physically present on campus.
23. Our institution recognizes that a sense of community is important to the success of many students, and that an ongoing, long-term relationship is beneficial to both student and institution and takes this factor into account as appropriate.

Evaluation and Assessment

24. As a component of our institution's overall assessment activities, documented assessment of student achievement is conducted in each online course and at the completion of the program, by comparing student performance to the intended learning outcomes.
25. When examinations are employed (paper, online, demonstrations of competency, etc.), they take place in circumstances that include firm student identification to assure the integrity of student work.
26. Documented procedures assure that security of personal information is protected in the conduct of assessments and evaluations and in the dissemination of results.

27. Overall program effectiveness is determined by such measures as matching student learning with outcomes, meeting student intentions, student retention and satisfaction, faculty satisfaction, the provision of access to students not previously served, appropriate use of learning resources, student competence in skills of communication, comprehension and analysis, and cost effectiveness.
28. Our institution conducts a program of continual self-evaluation directed toward online program improvement, targeting more effective uses of technology to improve pedagogy, advances in student achievement of intended outcomes, improved retention rates, effective use of resources, and demonstrated improvements in our institution's service to its internal and external constituencies.
29. Institutional evaluation of electronically offered programs takes place in the context of the regular evaluation of all academic programs.

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